REVISION HISTORY BG-3R CHASSIS

MODEL

KV-XA21M83
KV-XA21M93
KV-XA21M83
KV-XA51M61
KV-XA21N93
KV-XA21P80

PART NO.: 9-872-249-01

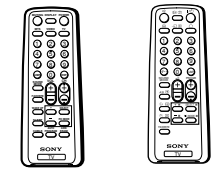
NO	DATE	DESCRIPTION OF REVISION

Self Diagnosis
Supported model

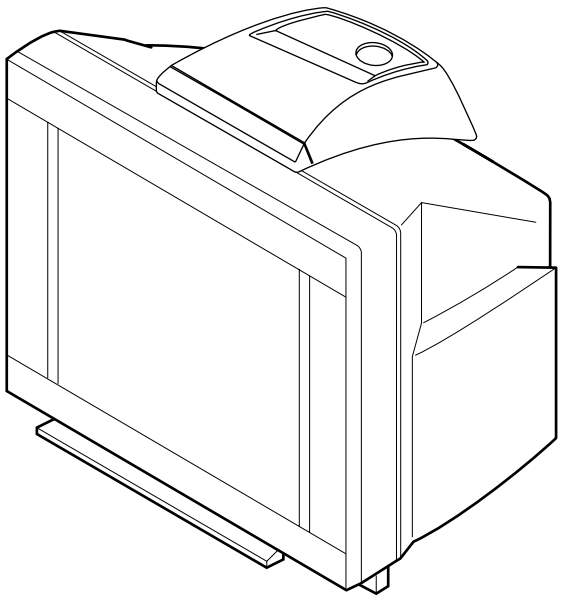
SERVICE MANUAL BG-3R CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-XA21M83	RM-952	India	SCC-U60A-A
KV-XA21M93	RM-952	India	SCC-U60B-A
KV-XA21M83	RM-952	Vietnam	SCC-U56D-A
KV-XA51M61	RM-952	Indonesia	SCC-U59A-A
KV-XA21N93	RM-915	Philippines	SCC-U61A-A
KV-XA21P80	RM-952	ME	SCC-U48M-A

MODEL	COMMANDER	DEST.	CHASSIS NO.



RM-915 RM-952



TRINITRON ® COLOR TV

SONY ®

SPECIFICATIONS
(KV-XA21P80/XA21N93)

		Note
Power requirements	110-240 V AC, 50/60 Hz	
Power consumption (W)	Indicated on the rear of the TV	
Television system	B/G	KV-XA21P80
	M	KV-XA21N93
Color system	PAL, PAL 60, NTSC4.43, NTSC3.58 (AV IN)	KV-XA21P80
	NTSC3.58, PAL*, PAL 60*, SECAM*, NTSC4.43* *AV IN only	KV-XA21N93
Stereo/Bilingual system	MTS	KV-XA21N93
Channel coverage		
B/G	VHF: E2 to E12 / UHF: E21 to E69 / CATV: S01 to S03, S1 to S41	KV-XA21P80
M	VHF: 2 to 13 / UHF: 14 to 69 / CATV: 1 to 125	KV-XA21N93
(Antenna)	75-ohm external terminal	
Audio output (speaker)	5W + 5W	KV-XA21P80
	3W + 3W	KV-XA21N93
3D Woofer	9W	KV-XA21N93 only
Number of terminal		
(Video)	Input: 2 Output: 1	Phono jacks; 1 V_{P-P}, 75 ohms
Audio	Input: 2 Output: 1	Phono jacks; 500 mVrms
(Headphone)	Output: 1	Stereo minijack
Picture tube	21 inch	
Tube size (cm)	54	Measured diagonally
Screen size (cm)	51	Measured diagonally
Dimension (w/h/d, mm)	640 × 452 × 496	KV-XA21P80
	640 × 482 × 496	KV-XA21N93
Mass (kg)	26	KV-XA21P80
	28	KV-XA21N93

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SPECIFICATIONS
(Except KV-XA21P80/XA21N93)

		Note
Power requirements	110-240 V AC, 50/60 Hz	
Power consumption (W)	Indicated on the rear of the TV	
Television system	B/G, I, D/K, M	
Color system	PAL, PAL 60, SECAM, NTSC4.43, NTSC3.58	
Stereo/Bilingual system	Nicam Stereo/ Bilingual B/G, I, D/K; A2 Stereo/Bilingual B/G	KV-XA21M93/XA51M61
Teletext language	English, Arabic, French	KV-XA51M61 only
Channel coverage		
B/G	VHF: E2 to E12 / UHF: E21 to E69 / CATV: S01 to S03, S1 to S41	
I	UHF: B21 to B68 / CATV: S01 to S03, S1 to S41	
D/K	VHF: C1 to C12, R1 to R12 / UHF: C13 to C57, R21 to R60 / CATV: S01 to S03, S1 to S41, Z1 to Z39	
M	VHF: A2 to A13 / UHF: A14 to A79 / CATV: A-8 to A-2, A to W+4, W+6 to W+84	
(Antenna)	75-ohm external terminal	
Audio output (speaker)	3W + 3W	except KV-XA51M61
	5W + 5W	KV-XA51M61 only
3D WOOFER	9W	except KV-XA51M61
Number of terminal		
(Video)	Input: 2 Output: 1	Phono jacks; 1 VP-P, 75 ohms
Audio	Input: 2 Output: 1	Phono jacks; 500 mVrms
(Headphone)	Output: 1	Stereo minijack
Picture tube	21 inch	Except KV-XA51M61
Tube size (cm)	54	Measured diagonally
Screen size (cm)	51	Measured diagonally
Picture tube		KV-XA51M61
Tube size (mm)	545	Measured diagonally
Screen size (mm)	507	Measured diagonally
Dimension (w/h/d, mm)	620 × 482 × 496	except KV-XA51M61
	620 x 452 x 496	KV-XA51M61
Mass (kg)	26	KV-XA51M61
	28	except KV-XA51M61

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SELF DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANBY/TIMER lamp will automatically begin to flash.
The number of times the lamp flashes translates to a probable source of the problem. A definition of the STANBY/TIMER lamp flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

1. DIAGNOSTIC TEST INDICATORS

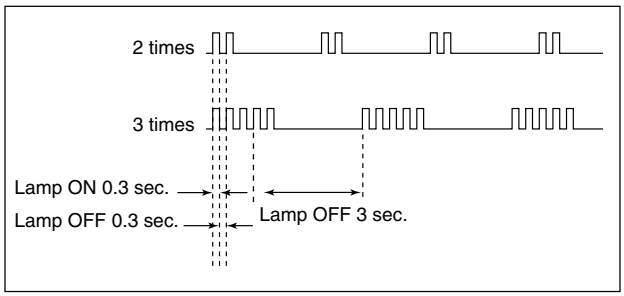
When an errors occurs, the STANDBY/TIMER lamp will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen. No error has occured if the screen displays a "0".

Diagnostic Item Description	No. of times STANDBY/TIMER lamp flashes	Self-diagnostic display/Diagnostic result	Probable Cause Location	Detected Symptoms
• Power does not turn on	Does not light	—	• Power cord is not plugged in. • Fuse is burned out F4601 (F)	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
• +B overcurrent (OCP) or overvoltage (OVP) • Vertical deflection stopped • Horizontal deflection overdrive	2 times	002:000 or 002:001~255 003:001~255 004:001~255 at the same time	• H.OUT Q511 is shorted. (A board) • IC700 is shorted (C1 board) • -13V is not supplied. (A board) • IC 503 faulty (A board)	• Power does not come on. • Load on power line is shorted. • Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
• White balance failure (no PICTURE)	5 times	005:000 or 005:001~225	• G2 is improperly adjusted. (Note 2) • CRT problem. • IC700 out is faulty (C1 board) • IC301 is faulty. (A board) • No connection A board to C1 board.	• No raster is generated. • CRT cathode current detection reference pulse output is small.
• Micro reset	—	101:00 or 101:001~225	• Discharge CRT (C1 Board) • Static discharge • External noise	• Power is shut down shortly, after this return back to normal. • Detect Micro latch up.

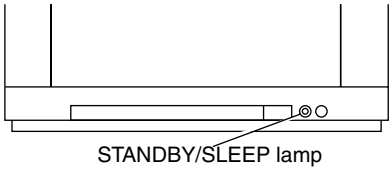
Note 1: If a + B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.
The symptom that is diagnosed first by the microcontroller is displayed on the screen.
Note 2: Refer to screen (G2) Adjustment in section 3-4 of this manual.
*IC700 out is faulty (C1 board).

2. DISPLAY OF STANDBY/TIMER LIGHT FLASH COUNT



Diagnostic Item	Flash Count*
+B overcurrent/overvoltage Vertical deflection stopped	2 times
White balance failure	5 times

* One flash count is not used for self-diagnostic.



3. STOPPING THE STANDBT/TIMER FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER lamp from flashing.

4. SELF-DIAGNOSTIC SCREEN DIPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurances of failure for confirmation on the screen:

[To Bring Up Screen Test]

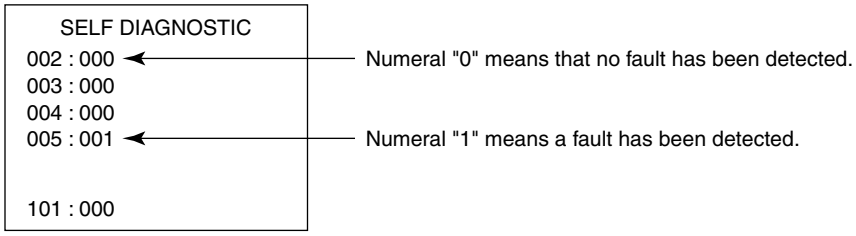
In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

Screen display ➡ channel 5 ➡ Sound volume - ➡ Power ON

⇧

Note that this differs from entering the service mode (mode volume [+]).

Self-Diagnosis screen display


SELF DIAGNOSTIC
002 : 000
003 : 000
004 : 000
005 : 001
101 : 000
Numeral "0" means that no fault has been detected.
Numeral "1" means a fault has been detected.

5. HANDLINGOF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

[Clearing the result display]

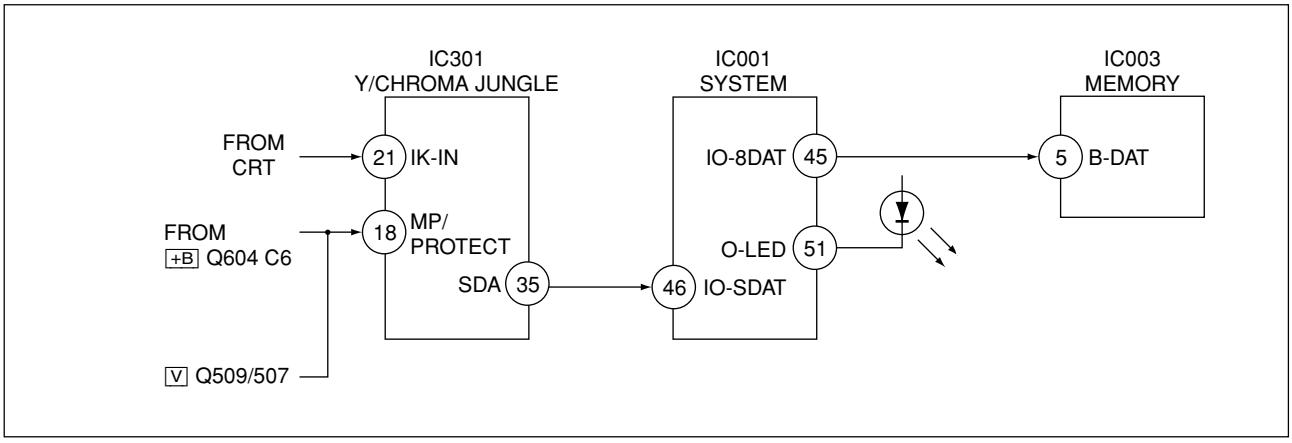
To clear the result display to “0”, press buttons on the remote commander sequentially as shown below when the diagnostic screen is being displayed.

Channel [8] ➡ 0

[Quitting Self-diagnostic screen]

To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

6. SELF-DIAGNOSTIC CIRCUIT



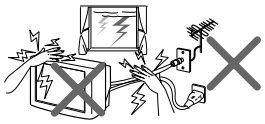
+B overcurrent (OCP)	Occurs when an overcurrent on the +B(135) line is detected by Q604. If Q604 go to ON and the voltage to pin 18 of IC301 should go down when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.
Vertical deflection stopped	Occurs when an absence of the vertical deflection pulse is detected by Q509 and IC001 shut down the power supply.
Vertical deflection overcurrent	Occurs when an overcurrent on V drive line is detected by Q507. Power supply will be shut down when detect this by IC001.
White balance failure	If the RGB levels* do not balance or become low level within 5 seconds, this error will be detected by IC301. TV will stay on, but there will be no picture. * (Refers to the RGB levels of the AKB detection Ref pulse that detects IK.)

SECTION 1-2
GENERAL
(except KV-XA21N93)

The operating instruction mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

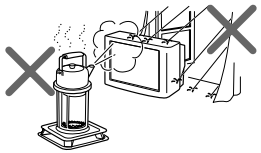
WARNING

- Dangerously high voltages are present inside the TV.
- Operate the TV only between 110 – 240 V AC.

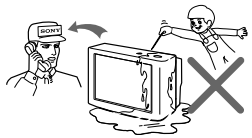


For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.

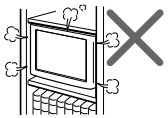
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



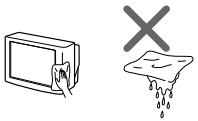
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



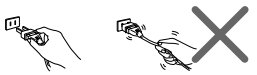
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



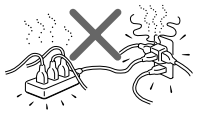
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



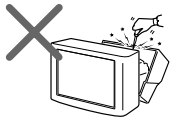
Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not scratch the picture tube.



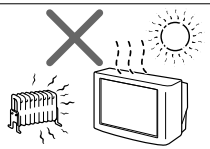
Pull the power cord out by the plug. Do not pull the power cord itself. Disconnect the TV before moving it or if you are not going to use it for several days.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



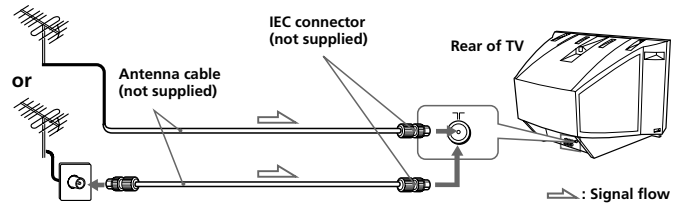
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.

Getting Started

Step 1

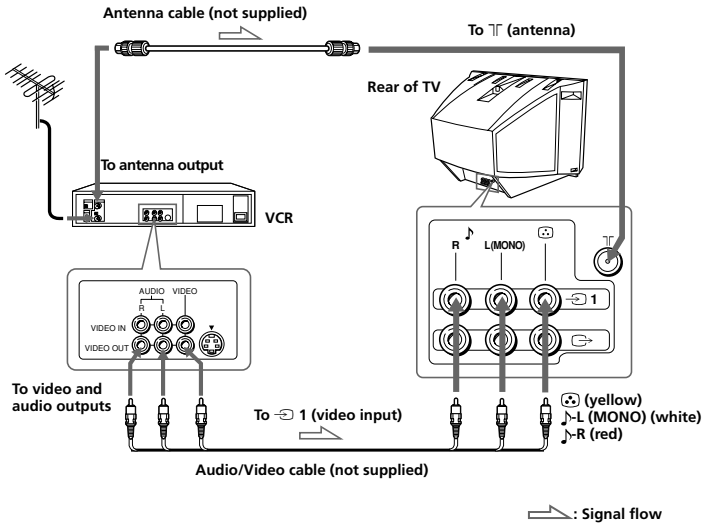
Connect the antenna

If you wish to connect a VCR, see the **Connecting a VCR** diagram below.



Connecting a VCR

To watch the video input, press ⊖ (see page 13).



Notes

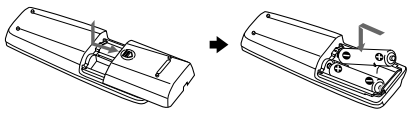
- If you connect a monaural VCR, connect the yellow plug to (video) (the yellow jack) and the black plug to ♪-L (MONO) (the white jack).
- If you connect a VCR to the ⅂ (antenna) terminal, preset the signal output from the VCR to the program number 0 on the TV.
- When no signal is input from the connected video equipment, the TV screen becomes blue.

CAUTION

- Do not connect the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid that leaks from the batteries touches you, immediately wash it away with water.

Step 2

Insert the batteries into the remote



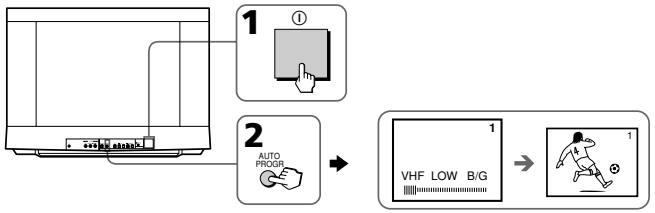
Note

- Do not use old batteries nor use different types of batteries together.

Step 3

Preset the channels automatically

Front of TV



Tips

- If you want to stop automatic channel presetting, press SELECT twice.
- If your TV has preset an unwanted channel or cannot preset a particular channel, then preset your TV manually (see page 10).

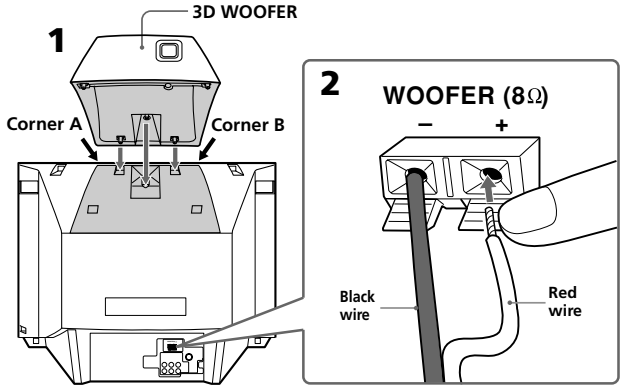
Note (except KV-XA21P80/XA51M61)

- During automatic channel presetting, your TV screen will indicate "B/G" , "I", "D/K" or "M" for the TV system.

Connecting the 3D WOOFER

(except KV-XA21P80/XA51M61)

You can enjoy high quality sound by connecting the 3D WOOFER.



1 Align the front of the 3D WOOFER to corners A and B of your TV. Place the 3D WOOFER into the footholds and adjust it until it is stable.

2 Connect the wires to the 3D WOOFER (8Ω) terminals at the rear of your TV. The red wire should be connected to the ⊕ red terminal and the black wire to the ⊖ black terminal.

Notes

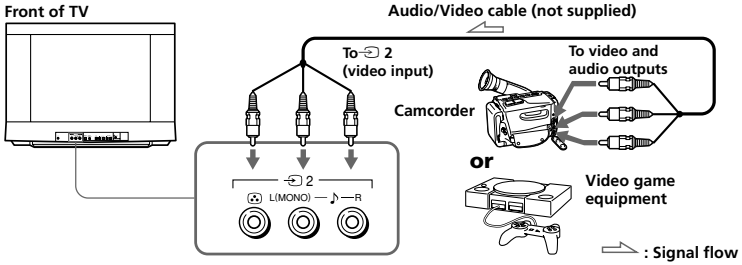
- Connect only the supplied 3D WOOFER; otherwise your TV may malfunction.
- Unplug your TV from the wall outlet when connecting the 3D WOOFER.
- To prevent a malfunction caused by a short circuit of the terminals, make sure that none of the 3D WOOFER wire strands stick out, making contact with the neighbouring 3D WOOFER terminal.

Connecting optional components

You can connect optional audio/video components, such as a VCR, multi disc player, camcorder, video game or stereo system.

To watch the video input of the connected equipment, press ⊖ (see page 13).

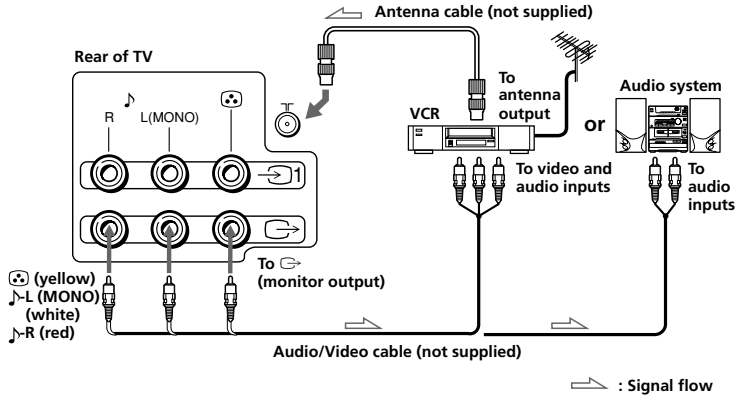
Connecting a camcorder/video game equipment using the ⊖ (video input) jacks



Note

- You can also connect video equipment to the ⊖ 1 (video input) jack at the rear of your TV.

Connecting audio/video equipment using the ⊖ (monitor output) jacks



Note

- If you connect a monaural VCR, connect the yellow plug to (the yellow jack) and the black plug to ♪-L (MONO) (the white jack).

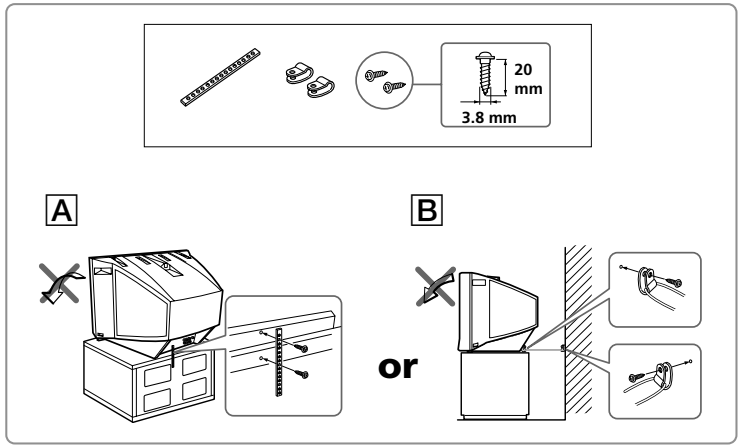
Securing the TV

To prevent the TV from falling, secure the TV using one of the following methods:

A With the supplied screws, attach the band to the TV stand and to the rear of the TV using the provided hole.

or

B Put the cord or chain through the clamps to secure the TV against a wall or pillar.

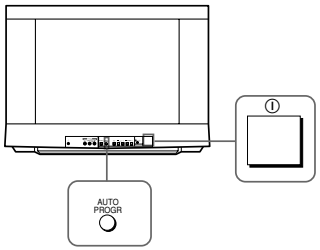


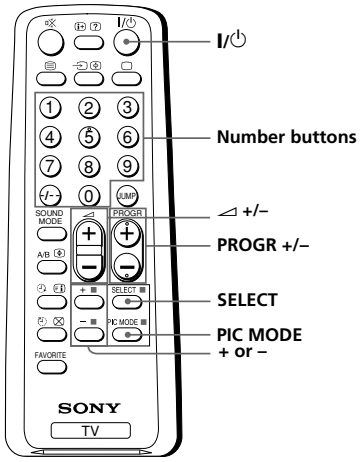
Note

- Use only the supplied screws. Use of other screws may damage the TV.

Presetting channels

You can preset up to 100 TV channels in numerical sequence from program number 1 using the remote and the buttons on your TV as well.





Presetting channels automatically

1 Press ⏻ to turn on the TV.

2 Press AUTO PROGR.

Note (except KV-XA21P80/XA51M61)

- During automatic channel presetting, your TV screen will indicate "B/G" , "I", "D/K" or "M" for the TV system.

To preset channels automatically from a specified program number

(1) Press SELECT until "AUTO PROGRAM" appears.

(2) Press + or –.
The on-screen display will start flashing.

(3) Press PROGR +/– or the number buttons until the desired program number appears.

(4) Press + or –.

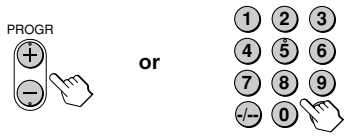
continued

Presetting channels manually

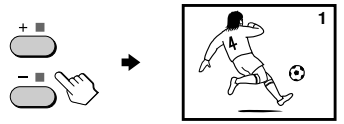
1 Press SELECT until "MANUAL PROGRAM" appears.

2 Press + or –.

3 Press PROGR +/– or the number buttons until the desired program number appears.



4 Press + or – until the desired channel picture appears.



5 Press SELECT.

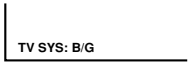
Note (except KV-XA21P80)

- If you preset a locked program number, that particular program number will be unlock automatically (see page 18).

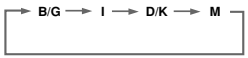
To change the TV system setting

If the picture or sound is abnormal when receiving programs through the ⅂ (antenna) terminal

(1) Press SELECT until "TV SYS" appears.



(2) Press + or – to select the appropriate TV system until the picture or sound quality is optimal.

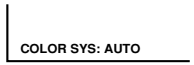


KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

To change the color system setting

If the color is abnormal when receiving programs through the ⅂ (antenna) terminal or the ⇦ (video input) jack.

(1) Press SELECT until "COLOR SYS" appears.



(2) Press + or – to select the appropriate color system until the color is optimal.

Tip

- Normally set "COLOR SYS" to "AUTO".

Skipping program numbers

1 Press PROGR +/– or the number buttons until the unused or unwanted program number appears.

2 Press SELECT until "MANUAL PROGRAM" appears.

3 Press + or –.

4 Press PIC MODE.

5 Press SELECT.

To restore the skipped program number again

Preset the channel automatically or manually.

Tip

- You can also use SELECT and ◿ +/– on the TV to preset channels and skip program numbers.

To use the fine tuning (FINE) function

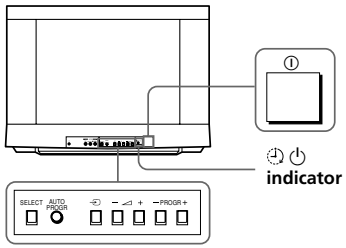
The fine tuning (FINE) function may help to reduce the following problems: double images and lines moving across the TV screen.

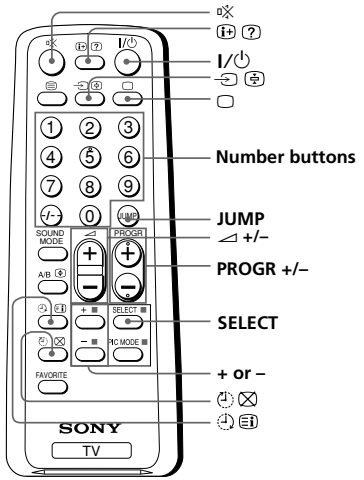
You can use the fine tuning function as below:

(1) Select the program number you want to adjust.
(2) Press SELECT until "MANUAL PROGRAM" appears on the screen.
(3) Press + or – on the remote control once.
(4) Press ⊡ to display "FINE" on the screen.
(5) Press + or – continuously until the above problems are minimized. The + or – icon on the screen flashes while tuning.
(6) Press SELECT to return to normal screen.

Watching the TV

This section explains functions used while watching the TV. Most operations can be done using the remote.



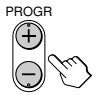


1 Press ⏻ to turn on the TV.

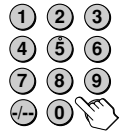
When the TV is in the standby mode (the ⏻ indicator on the TV is lit red), press I/⏻ on the remote or PROGR +/– on the TV.

2 Press PROGR +/– or the number buttons to select the program number.

For double digit numbers, press -/--, then the number (e.g., for 25, press -/--, then 2 and 5).



or



3 Press ◿ +/– to adjust the volume.

Additional tasks

To	Press
Turn off temporarily	I/⏻. The ⏻ indicator on the TV lights up red.
Turn off completely	⏻ on the TV.
Mute the sound	🔇.
Watch the video input (VCR, camcorder, etc.)	⇨ to select "VIDEO 1" or "VIDEO 2". To return to the TV program, press 🖵.
Jump back to the previous program number	JUMP.
Display the on-screen information*	ⓘ.
Adjust the volume of all program numbers automatically	SELECT repeatedly until "INTELLIGENT VOL" appears, then press + or – to select "ON". To cancel, select "OFF".
Adjust the picture position when it is not aligned to the TV screen	SELECT repeatedly until "PIC ROTATION" appears, then press + or – to adjust the alignment of the picture position. The ⤵⊞ or ⊟⤴ icon on the screen flashes while adjusting.

* The picture, sound, and either the program number or video input are displayed. The on-screen display for the picture and sound information disappears after about three seconds.

Changing the on-screen display language
(KV-XA51M61/XA21M83(Vietnam))

1 Press SELECT until "LANGUAGE / 语言 : ENGLISH"appears on the screen.

2 Press + or – to select "中文".

Tip

- You can also use SELECT and ◿ +/– on the TV to select the on-screen display language.

continued

Additional tasks

To	Press
Turn off temporarily	I/⏻. The ⏻ indicator on the TV lights up red.
Turn off completely	⏻ on the TV.
Mute the sound	🔇.
Watch the video input (VCR, camcorder, etc.)	⇨ to select "VIDEO 1" or "VIDEO 2". To return to the TV program, press 🖵.
Jump back to the previous program number	JUMP.
Display the on-screen information*	ⓘ.
Adjust the volume of all program numbers automatically	SELECT repeatedly until "INTELLIGENT VOL" appears, then press + or – to select "ON". To cancel, select "OFF".
Adjust the picture position when it is not aligned to the TV screen	SELECT repeatedly until "PIC ROTATION" appears, then press + or – to adjust the alignment of the picture position. The ⤵⊞ or ⊟⤴ icon on the screen flashes while adjusting.

* The picture, sound, and either the program number or video input are displayed. The on-screen display for the picture and sound information disappears after about three seconds.

Changing the on-screen display language
(except KV-XA51M61/XA21M83(Vientam))

1 Press SELECT until "LANGUAGE / اللغة : ENGLISH"appears on the screen.

2 Press + or – to select "عربي".

Tip

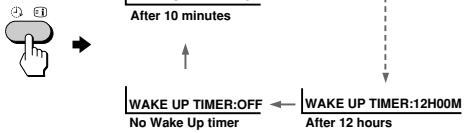
- You can also use SELECT and ◿ +/– on the TV to select the on-screen display language.

continued

Setting the Wake Up timer

1 Press ◴ until the desired period of time appears.

The Wake Up timer starts immediately after you have set it.



2 Select the program number or video input you want to display when you wake up.

3 Press I/⏻ or set the Sleep timer if you want the TV to turn off automatically.

The ◴ indicator on the TV lights up orange.

To cancel the Wake Up timer

Press ◴ until "WAKE UP TIMER: OFF" appears or turn off the TV's main power.

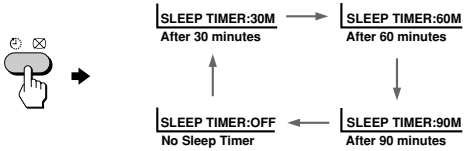
Note

- If no buttons or controls are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into the standby mode. To continue watching the TV, press any button or control on the TV or the remote.

Setting the Sleep timer

Press ◴ until the desired period of time appears.

The Sleep timer starts immediately after you have set it.



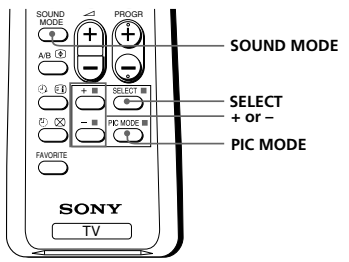
To cancel the Sleep timer

Press ◴ until "SLEEP TIMER: OFF" appears or turn the TV off.

Customizing the picture and sound

You can customize the picture and sound by selecting the picture and sound modes or by adjusting its settings.

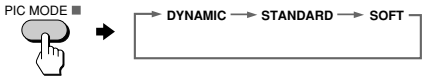
You can change the sound effect by selecting the surround mode.



Selecting the picture and sound modes

To select the picture mode

Press PIC MODE repeatedly until you get the desired picture mode.



Select	To
"DYNAMIC"	receive high contrast pictures.
"STANDARD"	receive normal contrast pictures.
"SOFT"	receive mild pictures.

To select the sound mode

Press SOUND MODE repeatedly until you get the desired sound mode.

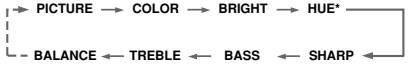
Select	To
"DYNAMIC"	listen to dynamic and clear sound that emphasizes the low and high sound.
"DRAMA"	listen to sound that emphasizes vocals and background music.
"SOFT"	receive soft sound.

continued

Adjusting the picture and sound settings

1 Press SELECT until the desired setting appears.

Each time you press SELECT, the setting item will change as follows:



2 Press + or – to adjust the item.

3 To adjust other items, repeat steps 1 to 2.

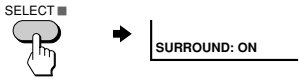
* "HUE" can be adjusted for the NTSC system only.

Notes

- When you select a picture or sound mode, the adjusted settings will be reset according to the selected mode.
- You can also use SELECT and ◿ +/– on the TV to adjust the picture and sound settings.

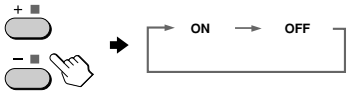
Selecting the surround mode

1 Press SELECT repeatedly until "SURROUND" appears.



2 Press + or – to select "ON".

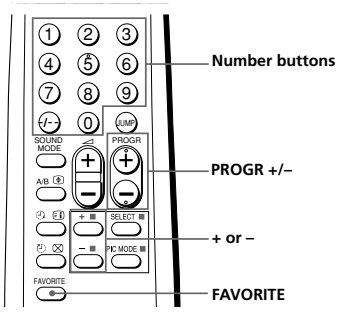
To turn off the surround mode, select "OFF" .



Viewing your favorite channels

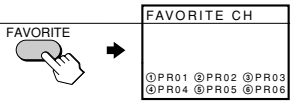
(except KV-XA21P80)

You can display six of your favorite channels for quick and easy selection. You can program the favorite channel setting as well.



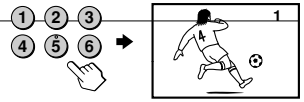
Selecting a favorite channel

1 Press FAVORITE.



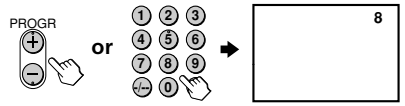
2 Press the number button from 1 to 6 to select the desired favorite channel.

When you use the "FAVORITE CH" feature for the first time, six preset favorite channels will appear.

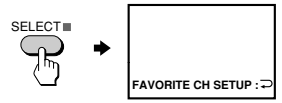


Programming the favorite channel

1 Press PROGR +/– or number buttons to select the program number you want to program (e.g., program number 8).



2 Press SELECT until "FAVORITE CH SETUP" appears.



3 Press + or – to select the favorite channel you want to program (e.g., ③).

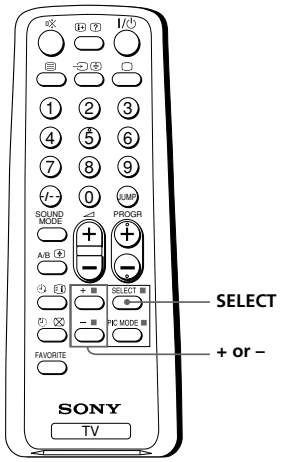
4 Press SELECT.

The selected favorite channel (e.g., ③) turns red for about one second.

5 To program other favorite channels, repeat steps 1 to 4.

Blocking the channels (CHILD LOCK)

You can lock some program numbers to prevent children from watching certain channels, by using the buttons on the remote control.



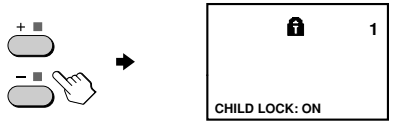
1 Select the program number you want to lock.

2 Press SELECT until "CHILD LOCK" appears on the screen.

3 Press + or – to select "ON".

The 🔒 symbol appears on the screen.

To cancel, press + or – to select "OFF". The 🔒 symbol disappears from the screen.



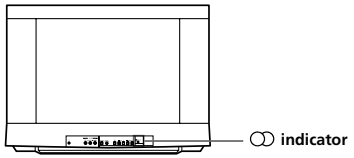
Note

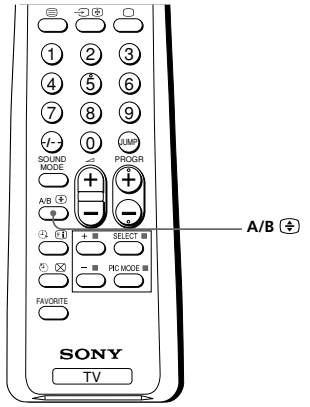
- If you preset a locked program number, that particular program number will be unlocked automatically (see page 10).

Enjoying stereo or bilingual programs

(KV-XA21M93/XA51M61 only)

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems.

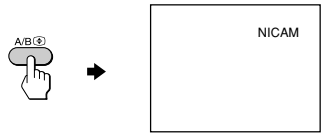




Press A/B repeatedly until you receive the sound you want.

The on-screen display changes to show the selected sound.

The ⊙⊙ indicator on the TV lights up red when receiving any stereo or bilingual program.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

continued

When receiving an A2 program

Broadcasting	On-screen display (Selected sound)
A2 stereo	MONO (Regular sound) → STEREO (Stereo sound)
A2 bilingual	MAIN (Main sound) → SUB (Sub sound)

Notes

- If the signal is very weak, the sound becomes monaural automatically.
- If the stereo sound is noisy when receiving a NICAM program, select "MONO". The sound becomes monaural, but the noise is reduced.

If the sound is distorted when receiving a monaural program through the ⅂ (antenna) terminal

Press A/B repeatedly until "MONO" appears on the screen.

To cancel the monaural sound setting, press A/B again until "AUTO" appears on the screen.

MONO → AUTO

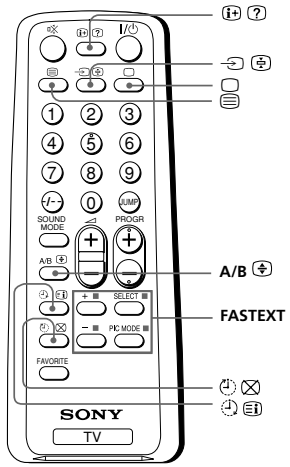
Notes

- The "MONO" or "AUTO" setting is memorized for each program number.
- You cannot receive stereo broadcast signal when the TV is in the "MONO" setting. Normally set the TV to "AUTO".

Viewing Teletext

(KV-XA51M61 only)

TV stations broadcast an information service called Teletext via some TV channels. Teletext allows you to receive various information, such as shares market or news.

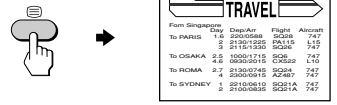


Displaying Teletext

1 Select a TV channel that carries the Teletext broadcast you want to watch.

2 Press ☰ to display the text.

A Teletext page (normally the index page) is displayed. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.



To turn off Teletext

Press 🖵.

Additional Teletext tasks

To	Do this
display a Teletext page on the TV picture	Press ☰. Each time you press ☰, the screen changes as follows: Teletext → Teletext and TV → TV.
check the contents of a Teletext service	Press ☰i. An overview of the Teletext contents and page numbers appear on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page. * If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/–.
Hold (pause) a Teletext display	Press ⊕ to display the symbol " ⊕ " at the top left corner of the screen. To resume normal Teletext operation, press ⊕ or ☰.
reveal concealed information (e.g., an answer to a quiz)	Press ?. To conceal the information, press the button again.
enlarge the Teletext display	Press ⊕. Each time you press ⊕, the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
wait for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press ⊠. 2 When the page number is displayed, press ☰ to show the text.

* You can also select a Teletext page that appears in the colored column at the bottom of the screen using the corresponding color-coded button on the remote.

Using FASTEXT

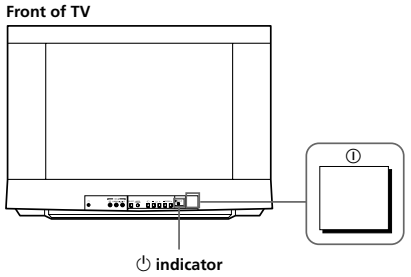
This feature allows you to quickly access a Teletext page that uses FASTEXT. When a FASTEXT program is broadcasted, the colored menus appear at the bottom of the screen. The colors of the menus correspond to the red ■ , green ■ , yellow ■ , and blue ■ color-coded buttons on the remote.

To access a FASTEXT menu

Press the color-coded button on the remote corresponding to the menu you want. The menu page appears on the screen after several seconds.

Self-diagnosis function

Your TV is equipped with a self-diagnosis function. If there is a problem with your TV, the ⏻ indicator flashes red. The number of times the ⏻ indicator flashes indicates the possible causes.



1 Check that the ⏻ indicator flashes red a number of times between 3-second intervals.

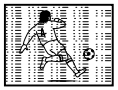
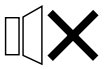
2 Count the number of times the ⏻ indicator flashes.

3 Press ⏻ (main power) to turn off your TV.

4 Inform your nearest Sony service center about the number of times the ⏻ indicator flashes.
Be sure to note the model name and serial number located on the rear of your TV.

Troubleshooting (KV-XA21M83 Vietnam)

If you find any problem while viewing your TV, please check the following guide.
If any problem persists, contact your Sony dealer.

Symptom	Possible cause	Solutions	Page
Snowy picture 	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
	• Channel presetting is inappropriate or incomplete.	• Press SELECT until "MANUAL PROGRAM" appears on the screen, then preset the channel again.	10
Noisy sound	• The antenna type is inappropriate.	• Check the antenna type (VHF/UHF). Contact a Sony dealer for advice.	–
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture	• Broadcast signals are too strong.	• Turn off or disconnect the booster if it is in use.	–
Noisy sound			
Good picture	• The TV system setting is inappropriate.	• If the sound of some channels are noisy, select the channel, then select the appropriate TV system (TV SYS).	10
Noisy sound			
No picture	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and the VCR connections.	4
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	13 12
No sound 			

Symptom	Possible cause	Solutions	Page
Good picture	• The volume level is too low.	• Press + to increase the volume level.	12
No sound	• The sound is muted.	• Press 🔇 to cancel the muting.	13
Dotted lines or stripes	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Adjust the antenna direction for minimum interference. Contact a Sony dealer for advice.	– –
Double images or "ghosts"	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning (FINE) function.	– 11
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color	• The color level setting is too low.	• Press SELECT until "COLOR" appears on the screen, then press + or – to adjust the color level.	16
	• The color system setting is inappropriate.	• Press SELECT until "COLOR SYS " appears on the screen, then check the color system setting (usually set this to "AUTO").	11
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
Abnormal color patches	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about five minutes, then turn it on again.	–

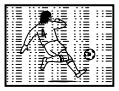
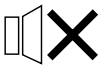
continued

Troubleshooting (continued)

Symptom	Possible cause	Solutions	Page
Picture slant	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Press SELECT until "PIC ROTATION" appears on the screen, then press + or – to adjust the picture until it is optimal.	– 13
Lines moving across the TV screen.	• There is interference from external sources, e.g., heavy machineries, nearby broadcast station.	• Use the fine tuning (FINE) function.	11
The ⏻ indicator on your TV flashes red a number of times between 3-second intervals.	• Your TV may need service.	• Contact your nearest Sony service center.	19
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.	—	–
A "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Troubleshooting (KV-XA51M61/XA21M93/XA21M83(India))

If you find any problem while viewing your TV, please check the following guide.
If any problem persists, contact your Sony dealer.

Symptom	Possible cause	Solutions	Page
Snowy picture 	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
	• Channel presetting is inappropriate or incomplete.	• Press SELECT until "MANUAL PROGRAM" appears on the screen, then preset the channel again.	10
Noisy sound	• The antenna type is inappropriate.	• Check the antenna type (VHF/UHF). Contact a Sony dealer for advice.	–
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture	• Broadcast signals are too strong.	• Turn off or disconnect the booster if it is in use.	–
Noisy sound			
Good picture	• The TV system setting or channel presetting is inappropriate or incomplete.	• If the sound of all the channels are noisy, check the TV system (TV SYS) setting, then press AUTO PROGR to preset the channels again. • If the sound of some channels are noisy, select the channel, then select the appropriate TV system (TV SYS).	9 10
Noisy sound	• The selected sound is inappropriate.	• If the sound of some channel are noisy, select the channel, then press A/B to select the main sound (KV-XA21M93 only).	19
No picture	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and the VCR connections.	4
	• The TV is not turned on.	• Press **I/**⏻ (power). • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	13 12
No sound 			

Symptom	Possible cause	Solutions	Page
Good picture **No sound** 	• The volume level is too low.	• Press + to increase the volume level.	12
	• The sound is muted.	• Press to cancel the muting.	13
	• Broadcast signal has a transmission problem.	• Press A/B until a better sound is heard	19
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Adjust the antenna direction for minimum interference. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning (FINE) function.	– 11
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Press SELECT until "COLOR" appears on the screen, then press + or – to adjust the color level.	16
	• The color system setting is inappropriate.	• Press SELECT until "COLOR SYS " appears on the screen, then check the color system setting (usually set this to "AUTO").	11
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about five minutes, then turn it on again.	–
TV cannot receive stereo broadcast signal	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	19

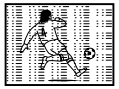
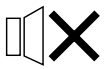
continued

Troubleshooting (continued)

Symptom	Possible cause	Solutions	Page
Stereo broadcast sound switches on and off or is distorted. **or** **The sound switches between monaural and stereo frequently.**	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Broadcast signal has a transmission problem.	• Press A/B until a better sound is heard.	19
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Press SELECT until "PIC ROTATION" appears on the screen, then press + or – to adjust the picture until it is optimal.	– 13
Lines moving across the TV screen.	• There is interference from external sources, e.g., heavy machineries, nearby broadcast station.	• Use the fine tuning (FINE) function.	11
The ⏻ indicator on your TV flashes red a number of times between 3-second intervals.	• Your TV may need service.	• Contact your nearest Sony service center.	21
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.	—	–
A "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Troubleshooting (KV-XA21P80 only)

If you find any problem while viewing your TV, please check the following guide. If any problem persists, contact your Sony dealer .

Symptom	Possible cause	Solutions	Page
Snowy picture  **Noisy sound**	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
	• Channel presetting is inappropriate or incomplete.	• Press SELECT until "MANUAL PROGRAM" appears on the screen, then preset the channel again.	9
	• The antenna type is inappropriate.	• Check the antenna type (VHF/UHF). Contact a Sony dealer for advice.	–
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture **Noisy sound**	• Broadcast signals are too strong.	• Turn off or disconnect the booster if it is in use.	–
No picture **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and the VCR connections.	4
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	12 11

continued

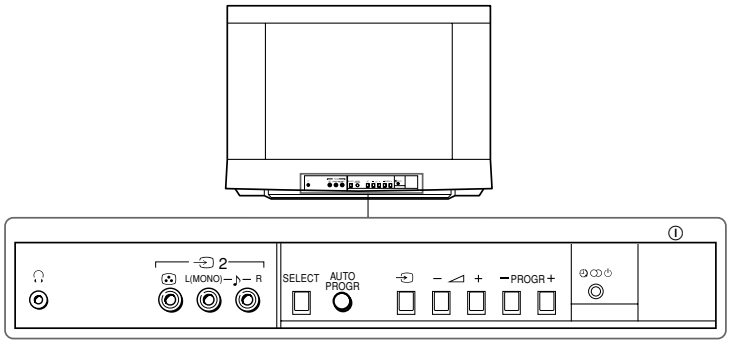
Troubleshooting (continued)

Symptom	Possible cause	Solutions	Page
Good picture **No sound**	• The volume level is too low.	• Press + to increase the volume level.	11
	• The sound is muted.	• Press 🔇 to cancel the muting.	12
Dotted lines or stripes	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Adjust the antenna direction for minimum interference. Contact a Sony dealer for advice.	– –
Double images or "ghosts"	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning (FINE) function.	– 10
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color	• The color level setting is too low.	• Press SELECT until "COLOR" appears on the screen, then press + or – to adjust the color level.	15
	• The color system setting is inappropriate.	• Press SELECT until "COLOR SYS " appears on the screen, then check the color system setting (usually set this to "AUTO").	9
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
Abnormal color patches	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about five minutes, then turn it on again.	–

Symptom	Possible cause	Solutions	Page
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Press SELECT until "PIC ROTATION" appears on the screen, then press + or – to adjust the picture until it is optimal.	– 12
Lines moving across the TV screen.	• There is interference from external sources, e.g., heavy machineries, nearby broadcast station.	• Use the fine tuning (FINE) function.	10
The ⏻ indicator on your TV flashes red a number of times between 3-second intervals.	• Your TV may need service.	• Contact your nearest Sony service center.	18
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.	—	–
A "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Overview of controls

TV front panel

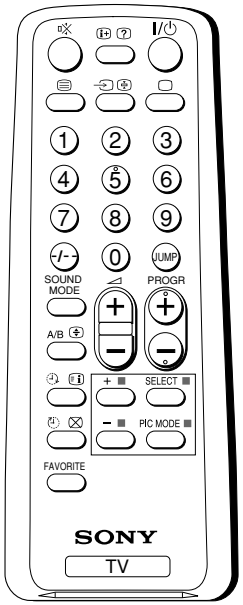


Button	Function	Page
AUTO PROGR	Preset channels automatically.	5
SELECT	Select the desired item.	11
PROGR +/–	Select program number.	12
⏻	Turn off completely or turn on the TV.	12
+/–	Adjust volume.	12
⏻	Standby indicator.	12
⏎	Select TV or video input.	13
◴	Wake Up indicator.	14
⧉ (KV-XA21M93/XA51M61 only)	Stereo/bilingual indicator.	19
🎧	Headphone jack.	–

continued

Overview of controls (continued)

Remote Control



The names/symbols of buttons on the remote are indicated in different colors to represent the available functions.

Label color	Button function
White	For general TV operations
Green	For Teletext operations

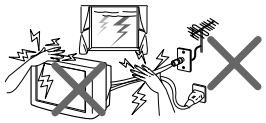
Button	Function	Page
SELECT	Select the desired item.	10
+/–	Adjust value.	10
PROGR +/–	Select program number.	12
0 – 9, -/--	Input numbers.	12
◿ +/–	Adjust volume.	12
I/⏻	Turn off temporarily or turn on the TV.	12
⏎	Select TV or video input.	13
▢	Display the TV program.	13
🔇	Mute the sound.	13
i+	Display on-screen information.	13
JUMP	Jump to previous program number.	13
Timer operations		
🕘	Set TV to turn on automatically.	14
🕘	Set TV to turn off automatically.	14
PIC MODE	Select picture mode.	15
SOUND MODE	Select sound mode.	15
FAVORITE	Display favorite channels.	17
Stereo/bilingual operations (Not used for these models)		
A/B	Select stereo/bilingual mode.	–
Teletext operations (Not used for these models)		
☰	Display Teletext broadcast.	–
☰i	Display Teletext service contents.	–
☰	Stop Teletext display from scrolling.	–
?	Reveal concealed information.	–
☰	Enlarge the Teletext display.	–
☒	Show TV screen while waiting for Teletext page.	–
■ (red, green, yellow, blue)	Access a FASTEXT menu.	–

The operating instruction mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

SECTION 2-2
GENERAL
(KV-XA21N93)

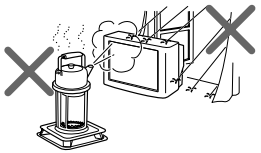
WARNING

- Dangerously high voltages are present inside the TV.
- Operate the TV only between 110-240 V AC.

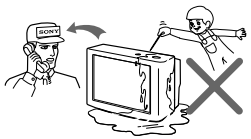


For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.

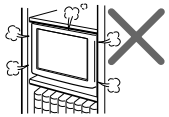
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



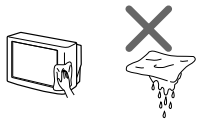
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



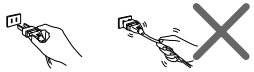
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



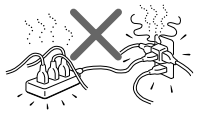
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



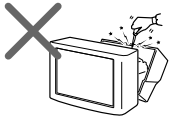
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not scratch the picture tube.



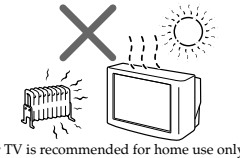
Pull the power cord out by the plug. Do not pull the power cord itself. Disconnect the TV before moving it or if you are not going to use it for several days.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



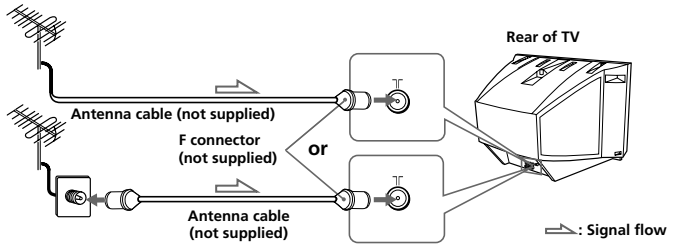
Your TV is recommended for home use only.
Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.

Getting Started

Step 1

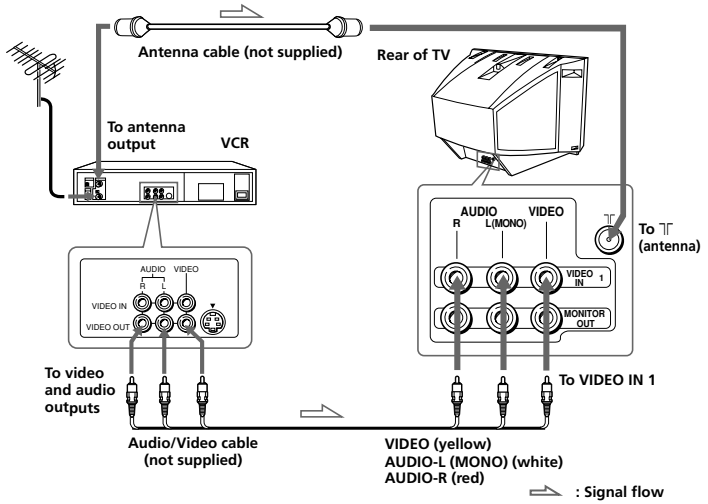
Connect the antenna

If you wish to connect a VCR, see the **Connecting a VCR** diagram below.



Connecting a VCR

To watch the video input, press VIDEO (see page 12).



Notes

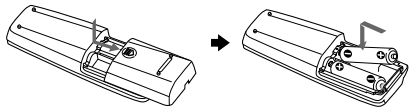
- With the "VIDEO MULTI SYSTEM" input terminal, you can also receive PAL, NTSC and SECAM video signals when using VIDEO IN 1 jacks at the rear of your TV or the VIDEO 2 INPUT at the front of your TV.
- If you connect a monaural VCR, connect the yellow plug to VIDEO (the yellow jack) and the black plug to AUDIO-L (MONO) (the white jack).
- When no signal is input to the connected video equipment, the TV screen becomes blue.

CAUTION

- Do not connect the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid that leaks from the batteries touches you, immediately wash it away with water.

Step 2

Insert the batteries into the remote

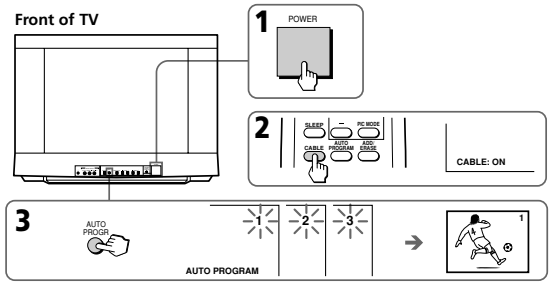


Note

- Do not use old batteries nor use different types of batteries together.

Step 3

Preset the channels automatically

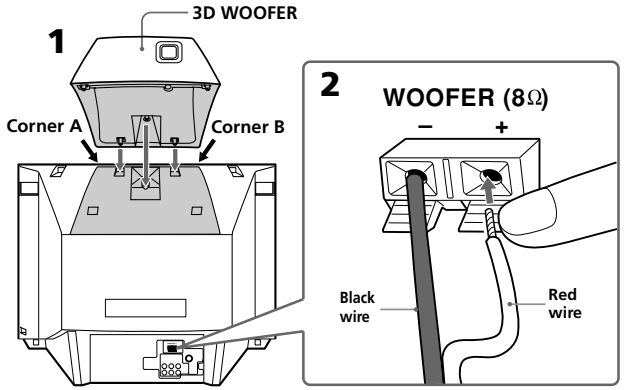


Tips

- If you want to stop automatic channel presetting, press SELECT.
- If your TV has preset an unwanted channel or cannot preset a particular channel, then preset your TV manually (see page 10).
- The AUTO PROGRAM button on the remote works as the AUTO PROGR button on the TV.

Connecting the 3D WOOFER

You can enjoy high quality sound by connecting the 3D WOOFER.



1 Align the front of the 3D WOOFER to corners A and B of your TV. Place the 3D WOOFER into the footholds and adjust it until it is stable.

2 Connect the wires to the 3D WOOFER (8Ω) terminals at the rear of your TV. The red wire should be connected to the ⊕ red terminal and the black wire to the ⊖ black terminal.

Notes

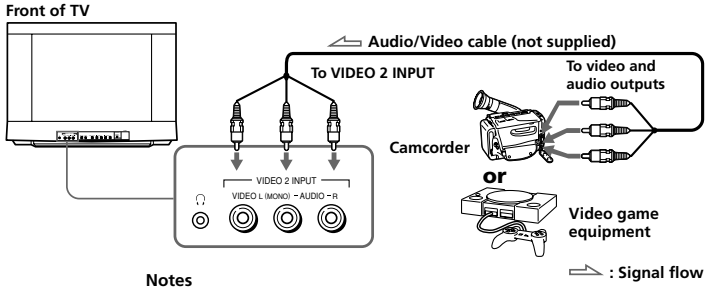
- Connect only the supplied 3D WOOFER; otherwise your TV may malfunction.
- Unplug your TV from the wall outlet when connecting the 3D WOOFER.
- To prevent a malfunction caused by a short circuit of the terminals, make sure that none of the 3D WOOFER wire strands stick out, making contact with the neighbouring 3D WOOFER terminal.

Connecting optional components

You can connect optional audio/video components, such as a VCR, multi disc player, camcorder, video game or stereo system.

To watch the video input of the connected equipment, press VIDEO (see page 12).

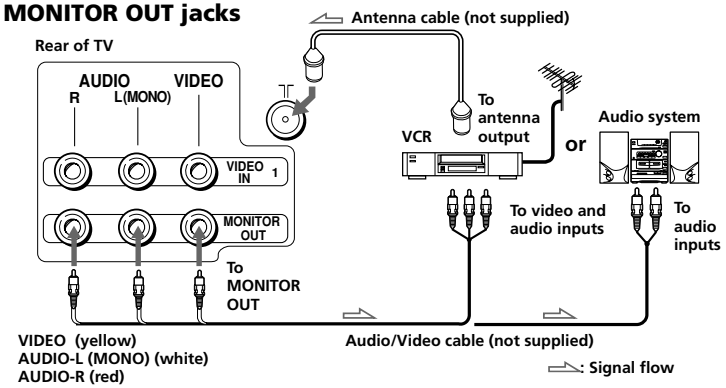
Connecting a camcorder/video game equipment using the video input jacks



Notes

- With the "VIDEO MULTI SYSTEM" input terminal, you can also receive PAL, NTSC and SECAM video signals when using VIDEO IN 1 jacks at the rear of your TV or the VIDEO 2 INPUT at the front of your TV.
- You can also connect video equipment to the VIDEO IN 1 jacks at the rear of your TV.

Connecting audio/video equipment using the MONITOR OUT jacks



Note

- If you connect a monaural VCR, connect the yellow plug to VIDEO (the yellow jack) and the black plug to AUDIO-L (MONO) (the white jack).

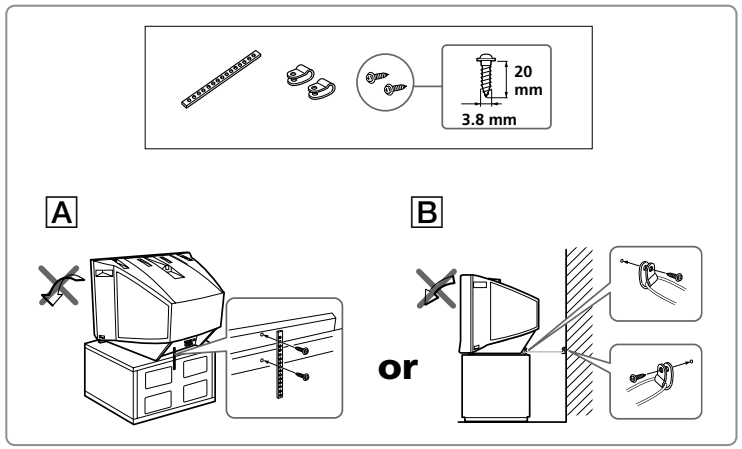
Securing the TV

To prevent the TV from falling, secure the TV using one of the following methods:

A With the supplied screws, attach the band to the TV stand and to the rear of the TV using the provided hole.

or

B Put the cord or chain through the clamps to secure the TV against a wall or pillar.

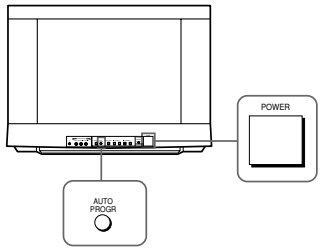


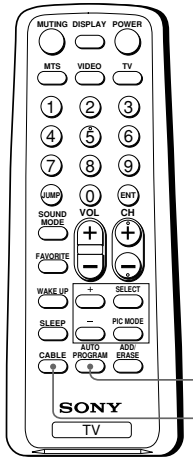
Note

- Use only the supplied screws. Use of other screws may damage the TV.

Presetting channels

You can preset cable TV, VHF or UHF broadcast channels using the remote and the buttons on your TV as well.



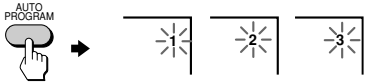


Presetting channels automatically

1 Press POWER on the TV to turn on the TV.

2 Press CABLE to select "CABLE: ON".

3 Press AUTO PROGRAM.

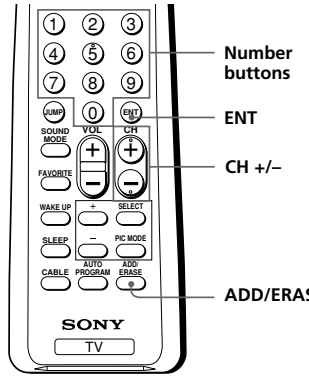


Notes

- If you select "CABLE: ON", you will be able to receive 125 cable TV channels.
  If there are no cable TV channels, you will receive VHF broadcast channels only.
- If you select "CABLE: OFF", you will be able to receive 68 VHF or UHF broadcast channels only.

continued

Presetting channels (continued)



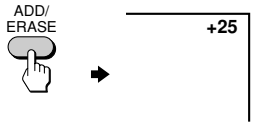
Presetting the channels manually

To receive a new channel or a channel with a weak signal, preset the channel manually.

1 Press number buttons to select the desired channel number, then press ENT.

2 Press ADD/ERASE.

"+" appears beside the channel number, indicating that presetting is complete.



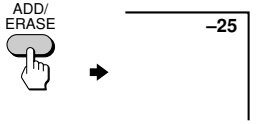
Disabling channel numbers

By disabling unused or unwanted channel numbers, you can skip those channel numbers when you press CH +/–.

1 Press CH +/– until the unused or unwanted channel numbers appears on the screen.

2 Press ADD/ERASE.

"–" appears beside the channel number, indicating that disabling is complete.

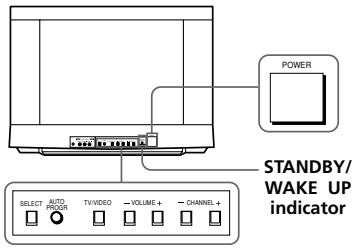


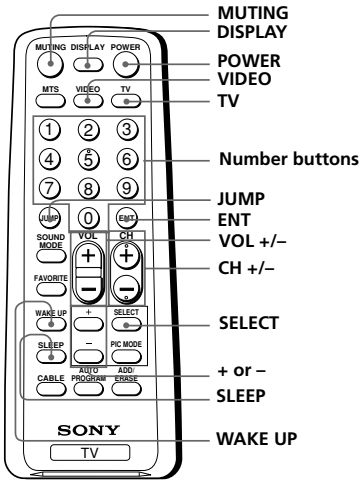
To cancel the skip setting

Preset the channel again.

Watching the TV

This section explains functions used while watching the TV. Most operations can be done using the remote.

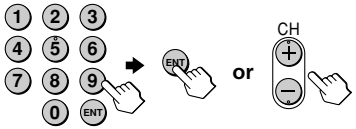




1 Press POWER to turn on the TV.

When the TV is in the standby mode (the STANDBY indicator on the TV is lit red), press POWER on the remote or CHANNEL +/– on the TV.

2 To select the channel number, press the number buttons and then press ENT, or press CH +/–.



3 Press VOL +/– to adjust the volume.

continued

Additional tasks

To	Do this
Turn off temporarily	Press POWER on the remote. The STANDBY indicator on the TV lights up red.
Turn off completely	Press POWER on the TV.
Mute the sound	Press MUTING.
Watch the video input (VCR, camcorder, etc.)	Press VIDEO to select "VIDEO 1" or "VIDEO 2". To return to the TV program, press TV.
Change the color system setting (for the VIDEO INPUT jack only)	Press SELECT repeatedly until "COLOR SYS" appears, then press + or – to select the appropriate color system until the color is optimal. → AUTO → PAL → SECAM → NTSC3.58 → NTSC4.43 →
Jump back to the previous channel number	Press JUMP.
Display the on-screen information*	Press DISPLAY.

* The picture, sound, and either the channel number or video input are displayed. The on-screen display for the picture and sound information disappears after about three seconds.

Changing the on-screen display language

1 Press SELECT until "LANGUAGE / 語文顯示 : ENGLISH " appears on the screen.

2 Press + or – to select "中文".

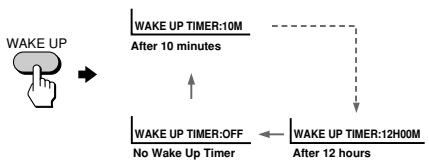
Tip

- You can also use SELECT and VOLUME +/– on the TV to select the on-screen display language.

Setting the Wake Up timer

1 Press WAKE UP until the desired period of time appears.

The Wake Up timer starts immediately after you have set it.



2 Select the channel number or video input you want to display when you wake up.

3 Press POWER on the remote or set the Sleep timer if you want the TV to turn off automatically.

The WAKE UP indicator on the TV lights up orange.

To cancel the Wake Up timer

Press WAKE UP until "WAKE UP TIMER: OFF" appears or turn off the TV's main power.

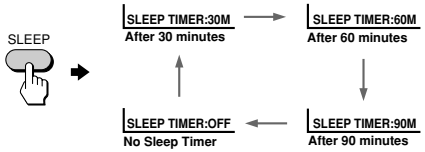
Note

- If no buttons or controls are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into the standby mode. To continue watching the TV, press any button or control on the TV or the remote.

Setting the Sleep timer

Press SLEEP until the desired period of time appears.

The Sleep timer starts immediately after you have set it.



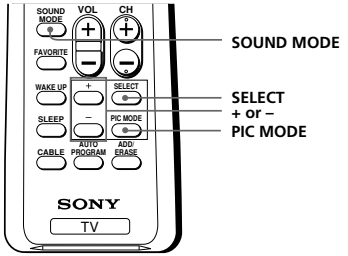
To cancel the Sleep timer

Press SLEEP until "SLEEP TIMER: OFF" appears or turn the TV off.

Customizing the picture and sound

You can customize the picture and sound by selecting the picture and sound modes or by adjusting its settings.

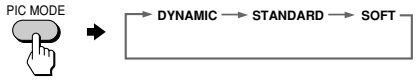
You can change the sound effect by selecting the surround mode.



Selecting the picture and sound modes

To select the picture mode

Press PIC MODE repeatedly until you get the desired picture mode.



Select	To
"DYNAMIC"	receive high contrast pictures.
"STANDARD"	receive normal contrast pictures.
"SOFT"	receive mild pictures.

To select the sound mode

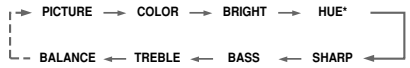
Press SOUND MODE repeatedly until you get the desired sound mode.

Select	To
"DYNAMIC"	listen to dynamic and clear sound that emphasizes the low and high sound.
"DRAMA"	listen to sound that emphasizes vocals and background music.
"SOFT"	receive soft sound.

Adjusting the picture and sound settings

1 Press SELECT until the desired setting appears.

Each time you press SELECT, the setting item will change as follows:



2 Press + or – to adjust the item.

3 To adjust other items, repeat steps 1 to 2.

* "HUE" can be adjusted for the NTSC system only.

Notes

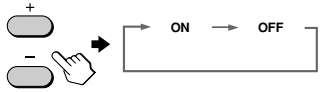
- When you select a picture or sound mode, the adjusted settings will be reset according to the selected mode.
- You can also use SELECT and VOLUME +/– on the TV to adjust the picture and sound settings.

Selecting the surround mode

1 Press SELECT repeatedly until "SURROUND" appears.

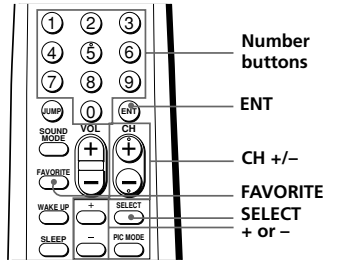
2 Press + or – to select "ON".

To turn off the surround mode, select "OFF".



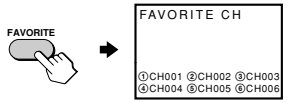
Viewing your favorite channels

You can display six of your favorite channels for quick and easy selection. You can program the favorite channel as well.



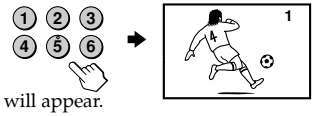
Selecting a favorite channel

1 Press FAVORITE.



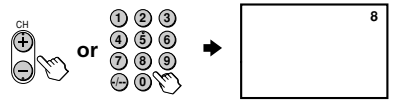
2 Press the number button from 1 to 6 to select the desired favorite channel.

When you use the "FAVORITE CH" feature for the first time, six preset favorite channels will appear.



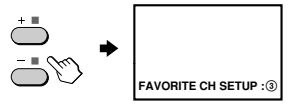
Programming the favorite channel

1 Press CH +/– or number buttons to select the channel number you want to program (e.g., channel number 8).



2 Press SELECT until "FAVORITE CH SETUP" appears.

3 Press + or – to select the favorite channel you want to program (e.g., ③).



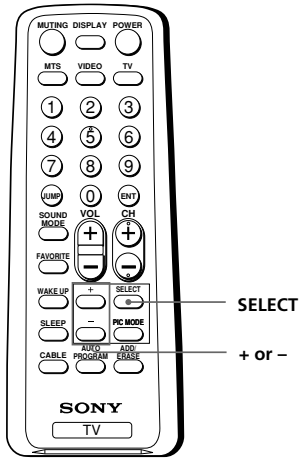
4 Press SELECT.

The selected favorite channel (e.g., ③) turns red for about one second.

5 To program other favorite channels, repeat steps 1 to 4.

Blocking the channels (CHILD LOCK)

You can lock some channel numbers to prevent children from watching certain channels, by using the buttons on the remote control.



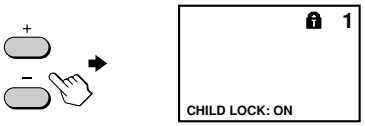
1 Select the channel number you want to lock.

2 Press SELECT until "CHILD LOCK" appears on the screen.

3 Press + or – to select "ON".

The 🔒 symbol appears on the screen.

To cancel, press + or – to select "OFF". The 🔒 symbol disappears from the screen.

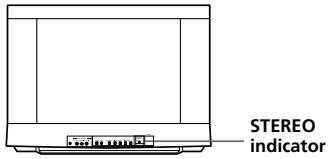


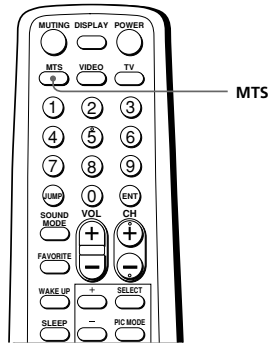
Note

- If you preset a locked channel number automatically again, that particular channel number will be unlocked.

Enjoying stereo or bilingual programs

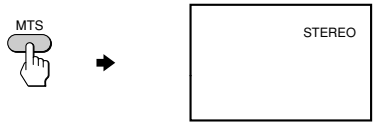
You can enjoy stereo sound or bilingual programs of MTS stereo system.





Press MTS repeatedly until you receive the sound you want.

The on-screen display changes to show the selected sound. The STEREO indicator on the TV lights up red when receiving any stereo program.



When receiving a MTS program

Broadcasting	On-screen display (Selected sound)
MTS stereo	STEREO → SAP → MONO → STEREO

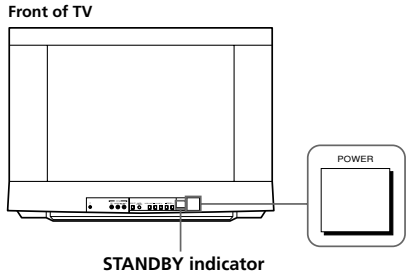
Select	To
"STEREO"	Listen to stereo broadcast sound.
"SAP"	Listen to SAP broadcast sound.
"MONO"	Listen to monaural sound.

Notes

- When select SAP, non-SAP program sound will be same as STEREO mode sound.
- When the signal is very weak, the SAP or STEREO broadcast sound may become abnormal. To improve the sound, select "MONO".

Self-diagnosis function

Your TV is equipped with a self-diagnosis function. If there is a problem with your TV, the STANDBY indicator flashes red. The number of times the STANDBY indicator flashes indicates the possible causes.



1 Check that the STANDBY indicator flashes red a number of times between 3-second intervals.

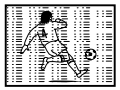
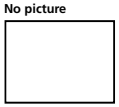
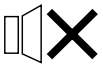
2 Count the number of times the STANDBY indicator flashes.

3 Press POWER to turn off your TV.

4 Inform your nearest Sony service center about the number of times the STANDBY indicator flashes.
Be sure to note the model name and serial number located on the rear of your TV.

Troubleshooting

If you find any problem while viewing your TV, please check the following guide. If any problem persists, contact your Sony dealer .

Symptom	Possible cause	Solutions	Page
Snowy picture 	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
	• Channel presetting is inappropriate or incomplete.	• Preset the channel again.	10
Noisy sound	• The antenna type is inappropriate.	• Check the antenna type (VHF/UHF). Contact a Sony dealer for advice.	–
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture	• Broadcast signals are too strong.	• Turn off or disconnect the booster if it is in use.	–
Noisy sound			
Good picture	• Channel presetting is inappropriate or incomplete.	• If the sound of all the channels are noisy, then press AUTO PROGRAM to preset the channels again.	9
Noisy sound			
No picture 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and the VCR connections.	4
	• The TV is not turned on.	• Press POWER on the remote.	12
		• Press POWER on the TV to turn off the TV for about five seconds, then turn it on again.	11
No sound 			

Troubleshooting (continued)

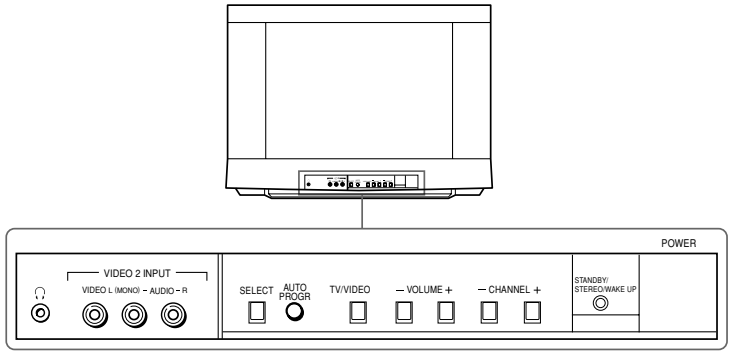
Symptom	Possible cause	Solutions	Page
Good picture **No sound** 	• The volume level is too low.	• Press VOL + to increase the volume level.	11
	• The sound is muted.	• Press MUTING to cancel the muting.	12
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Adjust the antenna direction for minimum interference. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna.	–
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Press SELECT until "COLOR" appears on the screen, then press + or – to adjust the color level.	15
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. Do not move the TV while the TV is turned on. Press POWER on the TV to turn off the TV for about five minutes, then turn it on again.	–
TV cannot receive stereo broadcast signal	• The stereo reception setting is inappropriate.	• Press MTS until "STEREO" appears on the screen.	18

Symptom	Possible cause	Solutions	Page
Stereo broadcast sound switches on and off or is distorted. **or** **The sound switches between monaural and stereo frequently.**	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Broadcast signal has a transmission problem.	• Press MTS until a better sound is heard.	18
The STANDBY indicator on your TV flashes red a number of times between 3-second intervals.	• Your TV may need service.	• Contact your nearest Sony service center.	19
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.	—	–
A "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

continued

Overview of controls

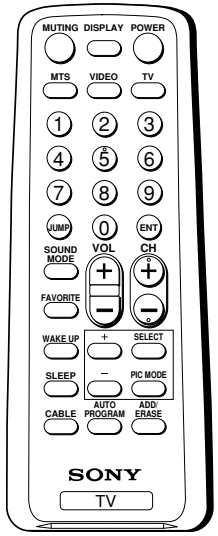
TV front panel



Button	Function	Page
AUTO PROGR	Preset channels automatically.	5
CHANNEL +/–	Select channel number.	11
POWER	Turn off completely or turn on the TV.	11
VOLUME +/–	Adjust volume.	11
STANDBY	Standby indicator.	11
TV/VIDEO	Select TV or video input.	12
SELECT	Select the desired item.	12
WAKE UP	Wake up indicator.	13
STEREO	Stereo indicator.	18
∩	Headphone jack.	–

continued

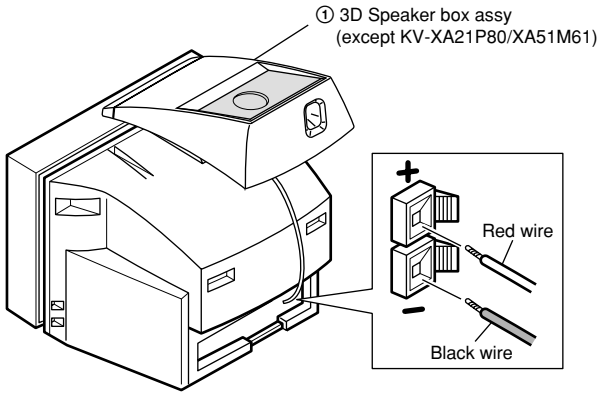
Remote Control



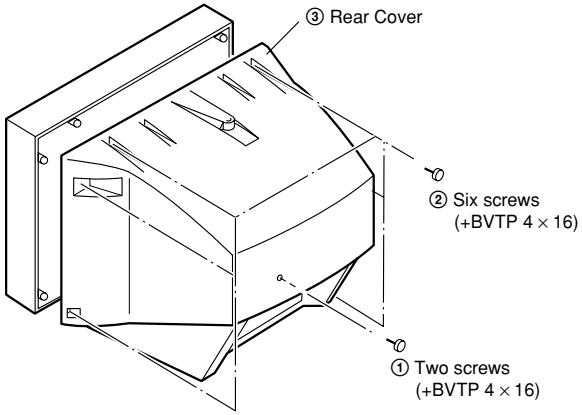
Button	Function	Page
CABLE	Select the cable TV.	5
POWER	Turn off temporarily or turn on the TV.	9
AUTO PROGRAM	Preset channels automatically.	9
CH +/–	Select channel number.	10
ADD/ERASE	Preset channels manually.	10
0-9	Input numbers.	11
ENT	Confirm input number.	11
VOL +/–	Adjust volume.	11
MUTING	Mute the sound.	12
TV	Display the TV program.	12
VIDEO	Select TV or video input.	12
JUMP	Jump to previous channel number.	12
DISPLAY	Display on-screen information.	12
SELECT	Select the desired items.	12
+/–	Adjust item.	12
Timer operations		
WAKE UP	Set TV to turn on automatically.	13
SLEEP	Set TV to turn off automatically.	13
PIC MODE	Select picture mode.	14
SOUND MODE	Select sound mode.	14
FAVORITE	Display favorite channels.	16
Stereo/bilingual operations		
MTS	Select stereo/bilingual mode.	18

SECTION 2
DISASSEMBLY

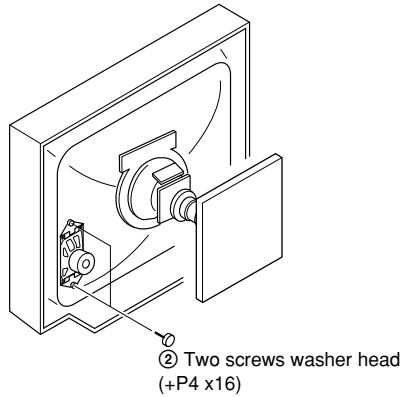
2-1. 3D SPEAKER BOX REMOVAL



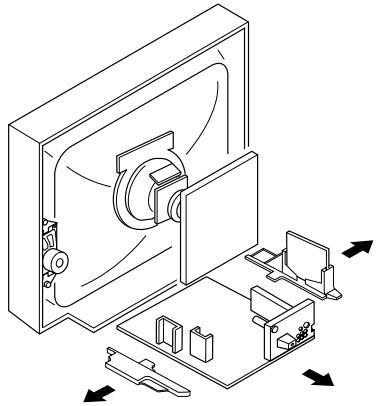
2-2. REAR COVER REMOVAL



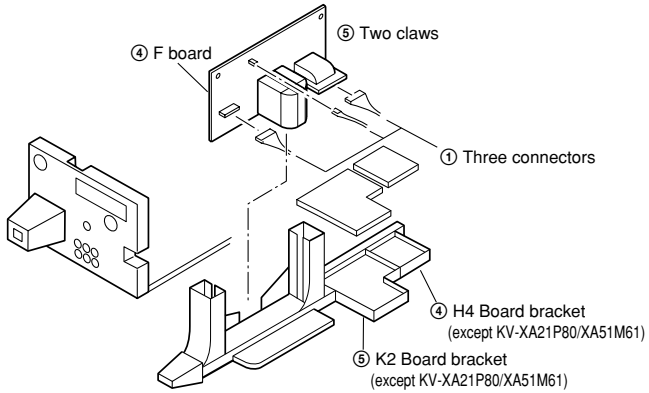
2-3. SPEAKER REMOVAL



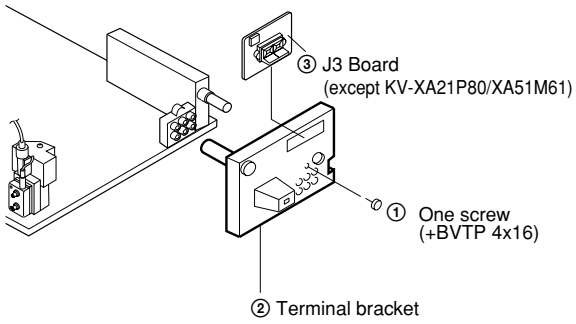
2-4. CHASSIS ASSY REMOVAL



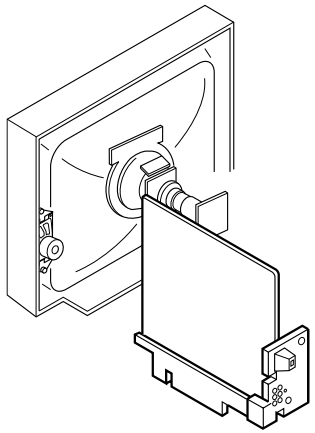
2-5. F, H4 AND K2 BOARDS REMOVAL



2-6. J3 BOARD AND TERMINAL BRACKET REMOVAL



2-7. SERVICE POSITION

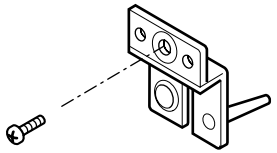


Note:
1. Disconnect the speaker connection on the right side.
2. Undress necessary wires that creates tension while placing the chassis into Service Position.

2-8. REPLACEMENT OF PARTS

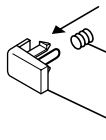
For replacement of light guide,unscrew them, exchange with new parts and fix them with screws respectively.

2-8-1. Replacement of Light Guide



One screw
(+BVTP 3 × 12)

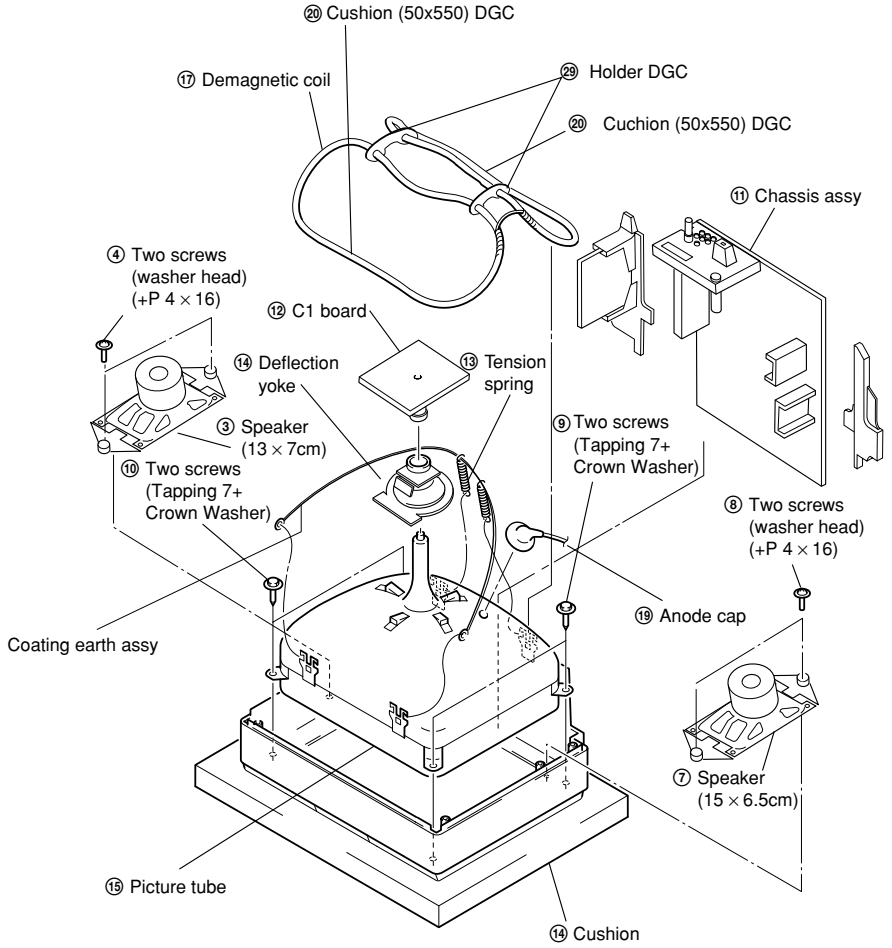
2-8-2. Replacement of Power Button



① Push the claw to direction of arrow and remove
② Spring compression
③ Power Button

2-9. PICTURE TUBE REMOVAL

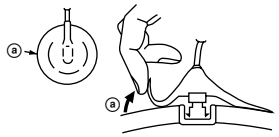
Note:
- The oicture tube for Australia model is upside down, and the position for the anode-cap and the tension spring are changed accordingly.
- Please remove necessary CRT support located on top left, top right, prior to removing


⑳ Cushion (50x550) DGC
⑰ Demagnetic coil
㉙ Holder DGC
⑳ Cuchion (50x550) DGC
⑪ Chassis assy
④ Two screws (washer head) (+P 4 × 16)
⑫ C1 board
⑭ Deflection yoke
⑬ Tension spring
③ Speaker (13 × 7cm)
⑨ Two screws (Tapping 7+ Crown Washer)
⑩ Two screws (Tapping 7+ Crown Washer)
⑧ Two screws (washer head) (+P 4 × 16)
⑲ Anode cap
Coating earth assy
⑦ Speaker (15 × 6.5cm)
⑮ Picture tube
⑭ Cushion

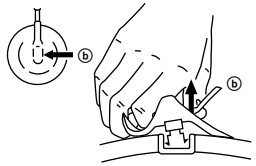
• REMOVAL OF ANODE-CAP

NOTE : After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

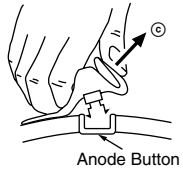
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



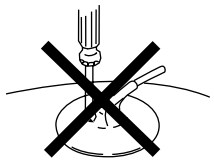
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

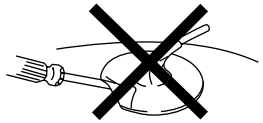


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

① Do not damage the surface of anode-caps with sharp shaped objects.
② Do not press the rubber too hard so as not to damage the inside of anode-cap. A metal fitting called the shatter-hook terminal is built into the rubber.
③ Do not turn the foot of rubber over too hard. The shatter-hook terminal will stick out or damage the rubber.





SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:

PICTURE control ..... normal
BRIGHTNESS control ..... normal

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Pattern Generator
2. Degausser
3. Oscilloscope

.....

Preparation :

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input a white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Set the pattern generator raster signal to a green raster.
3. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side. (See Figures 3-1 through 3-4.)
4. Move the deflection yoke forward and adjust so that the entire screen is green. (See Figure 3-1.)
5. Switch the raster signal to blue, then to red and verify the condition.
6. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
7. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Figure 3-4.)

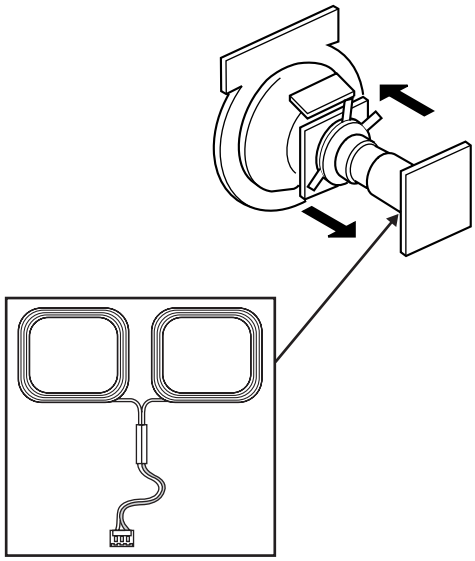


Fig. 3-1

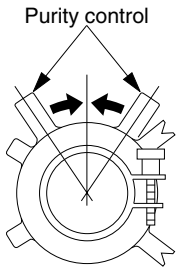


Fig. 3-2

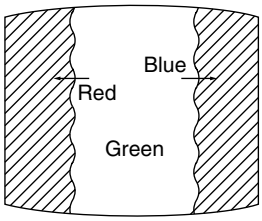


Fig. 3-3

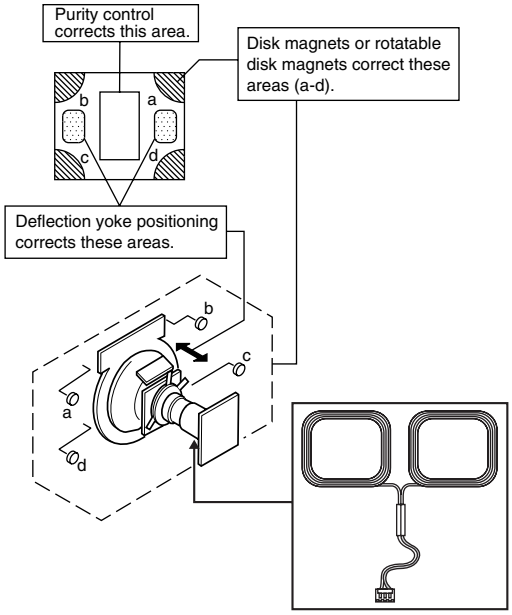


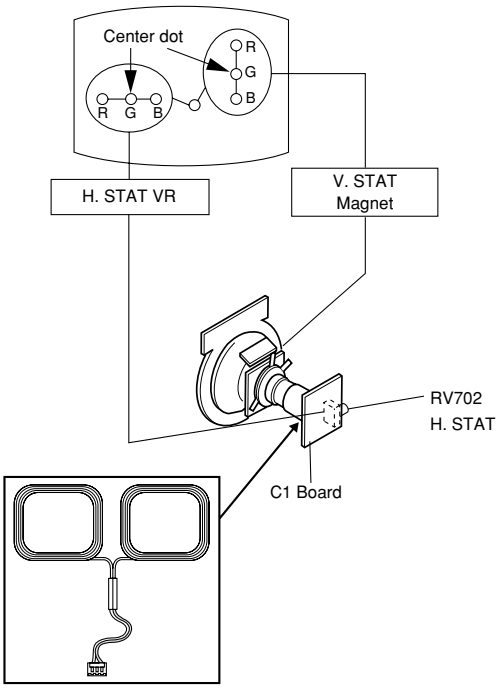
Fig. 3-4

3-2. CONVERGENCE ADJUSMENT

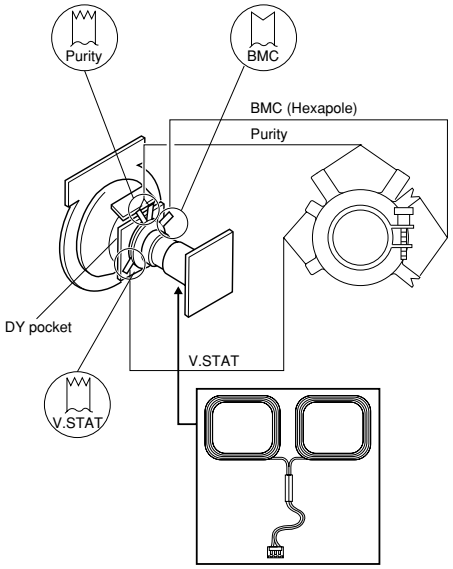
Preparation :

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Receive dot/hatch signal.
- Pic mode: Personal (Pic 90%, Brightness 50%, Col 50 %, Hue 50%, Shp 50%).

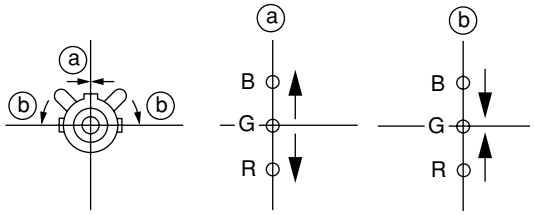
(1) Horizontal and Vertical Static Convergence



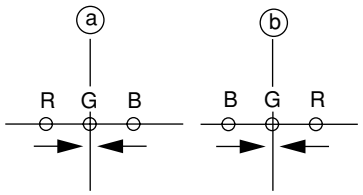
1. (Moving horizontally), adjust the H.STAT control so that the red, green and blue dots are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green and blue dots together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other, so be sure to perform adjustments while tracking.)



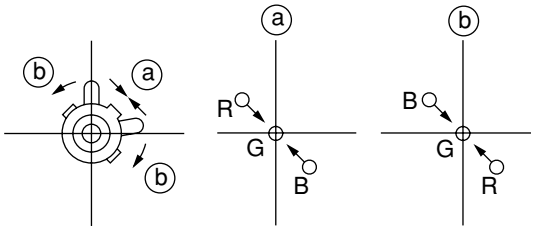
① V. STAT



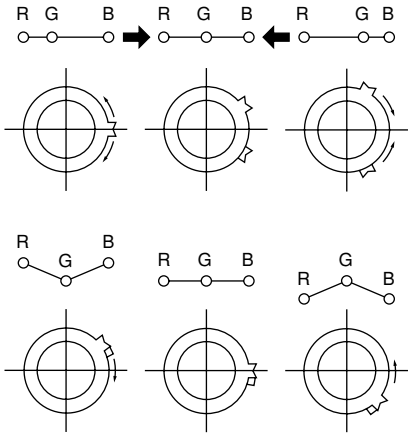
② H. STAT VR



③



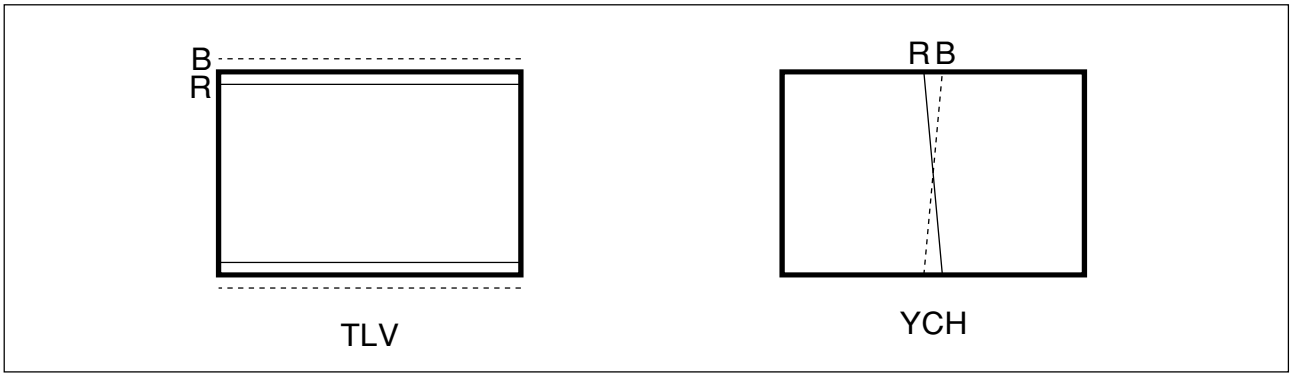
④ BMC (Hexapole) Magnet.
If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.



(2) Dynamic Convergence Adjustment

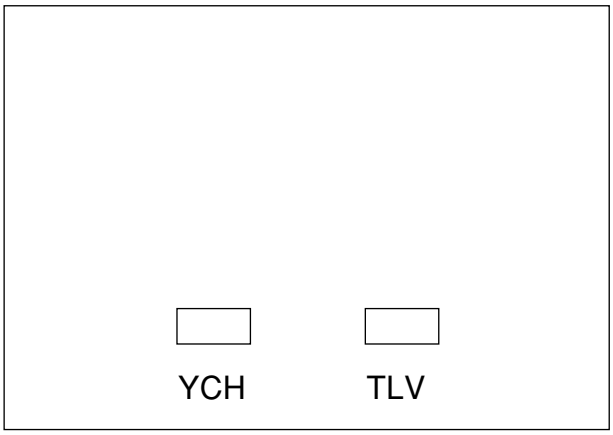
Preparation:

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence

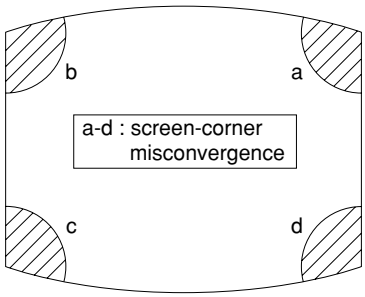


YCH	Rotate	YCH	VOL on DY
TLH	Insert	TLH	Correction Plate to DY Pocket (Left or Right)
TLV	Rotate	TLV	VOL on DY

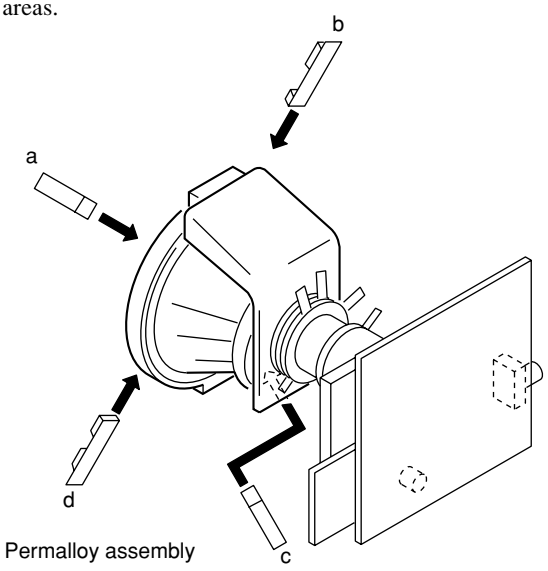
ON DY:



(3) Screen-corner Convergence



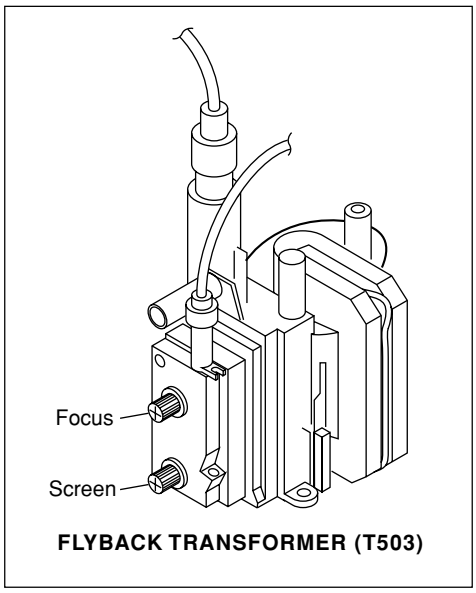
Fix a Permalloy assy corresponding to the misconverged areas.



3-3. FOCUS ADJUSTMENT

FOCUS adjustment should be completed before W/B adjustment.

1. Receive digital monoscope pattern.
2. Set "Picture Mode" to "DYNAMIC".
3. Adjust focus VR so that the center of screen becomes just focus.
4. Change the receiving signal to white pattern and blue back.
5. Confirm magenta ring is not noticeable. Incase magenta is very obvious, adjust focus VR to take balance of magenta ring and focus.

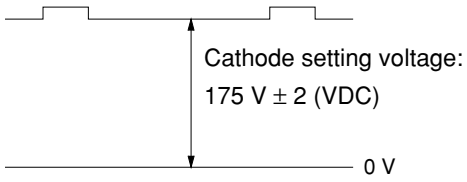


FLYBACK TRANSFORMER (T503)

3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT

1) Set the PICTURE to normal.
2) Put to VIDEO input mode without signals.
3) Connect R, G and B of the C1 board cathode to the oscilloscope.
4) Adjust BRIGHTNESS to obtain the cathode voltage to the value below.
5) Adjust G2 (screen) on the FBT until picture shows the point before cut off.

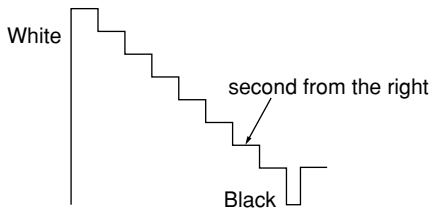


2. WHITE BALANCE ADJUSTMENT

1) Set to Service Mode (Refer Section 5-1: ADJUSTMENTS WITH COMMANDER).
2) Input white raster signal.
3) Set the PICTURE to minimum.
4) Select GCT (WHB 4) and BCT (WHB 5) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
5) Set the PICTURE to maximum.
6) Select GDR (WHB 1) and BDR (WHB 2) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
7) Write into the memory by pressing [MUTING] then [0].

3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black to white from the pattern generator.
3) BRIGHTNESS ..... 50%.
   PICTURE ..... MINIMUM
4) Select SBR (WHB7) with [1] and [4], and adjust SBR (WHB7) level with [3] and [6] so that the second stripe from the right is dimly lit.



SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ADJUSTMENTS WITH COMMANDER

Service adjustments to this model can be performed using the supplied Remote Commander RM-915 and RM-952

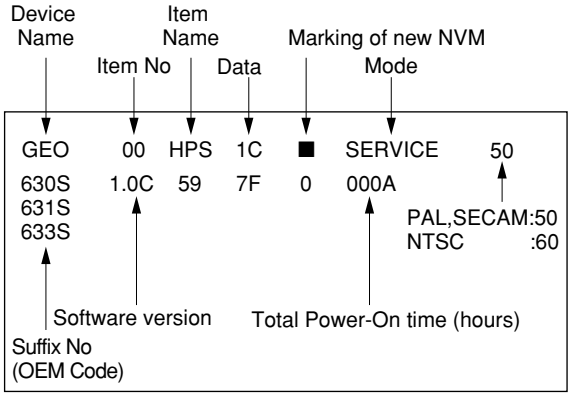
a. ENTERING SERVICE MODE

With the unit on standby

→ [DISPLAY] → [5] → [VOL (+)] → [POWER]

This operation sequence puts the unit into service mode.

The screen display is :



b. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press [POWER] button on the commander), then press [POWER] button again, hereupon it becomes TV mode.

c. METHOD OF WRITE INTO MEMORY

1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), to select the adjustment.
4) Press [MUTING] button to indicate WRITE on the screen.
5) Press [0] button to write into memory.

d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again to confirm adjustments were made.

[1], [4]	Select the adjustment item.
↓	
[3], [6]	Raise/lower the data value.
↓	
[MUTING]	Writes.
↓	
[0]	Executes the writing.

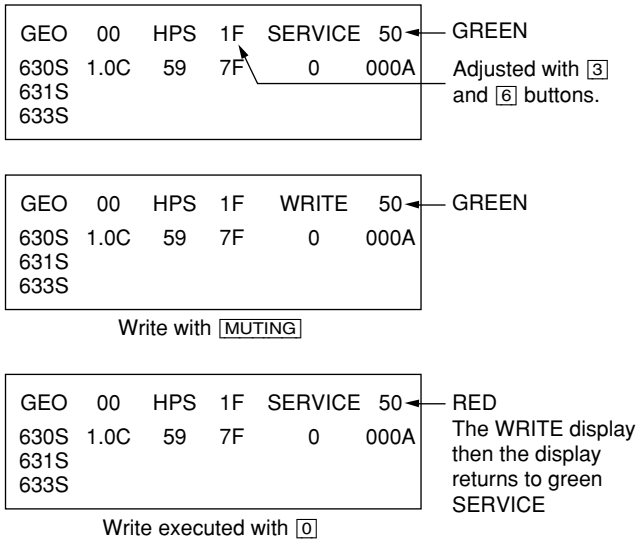
[7], [0]	All the data becomes the values in memory.
[8], [0]	All user control goes to the standard state.
[5], [0]	Service data initialization (Be sure not to use usually.)
[2], [0]	Write 50Hz adjustment data to 60Hz, or vice versa.

4-2. ADJUSTMENT METHOD

Item Number 00 of device GEO
This explanation uses H-Position as an example.

1. Select "GEO 00 HPS" with the [1] and [4] buttons.
2. Raise/lower the data with the [3] and [6] buttons.
3. Select the optimum state. (The standard is 1F for PAL reception.)
4. Write with the [MUTING] button. (The display changes to WRITE.)
5. Execute the writing with the [0] button. (The WRITE display will be changed to red color while excuting, and back to SERVICE.)

Example on screen display :-



Use the same method for all Items. Use [1] and [4] to select the adjustment item, use [3] and [6] to adjust, write with [MUTING], then execute the write with [0].

Note : 1. In [WRITE], the data for all items are written into memory together.
2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

Adjustment Item Table

TVG	Functionality		Init.	Range	Function	Table & Note	NVM Address			Device Name
Category	No.	Name					Slave	Sub	Bit	Initial data for tables
GEO	00	HPS	7	3F	H POSITION	50/60Hz	A0	A1/AE	7-2	
	01	HSZ	1F	3F	H SIZE	50/60Hz	A0	A0/AD	7-2	
	02	PAP	1F	3F	PIN AMP	50/60Hz	A0	A2/AF	7-2	
	03	TLT	7	0F	TRAPEZIUM	50/60Hz	A0	A4/B1	7-4	
	04	VPS	1F	3F	V POSITION	50/60Hz	A0	9E/AB	7-2	
	05	VSZ	1F	3F	V SIZE	50/60Hz	A0	9D/AA	7-2	
	06	SCO	7	0F	S CORRECTION	50/60Hz	A0	9F/AC	7-4	
	07	VLN	7	0F	V LINEARITY	50/60Hz	A0	9F/AC	3-0	
	08	BOW	7	0F	AFC BOW	50/60Hz	A0	A5/B2	7-4	
	09	AGL	7	0F	AFC ANGLE	50/60Hz	A0	A5/B2	3-0	
	0A	UPN	1F	3F	UPPER PIN	50/60Hz	A0	A3/B0	7-2	
	0B	LPN	1F	3F	LOWER PIN	50/60Hz	A0	A7/B4	7-2	
	0C	HBL	0	1	H BLANKING ON/OFF		A0	9A	1	
	0D	LBL	2	0F	LEFT H BLANKING	50/60Hz	A0	A6/B3	7-4	
	0E	RBL	0B	0F	RIGHT H BLANKING	50/60Hz	A0	A6/B3	3-0	
WHB	00	RDR	25	3F	R DRIVE	DYNAMIC/others	A0	C0/BA	7-2	
	01	GDR	25	3F	G DRIVE	DYNAMIC/others	A0	C1/BB	7-2	
	02	BDR	25	3F	B DRIVE	DYNAMIC/others	A0	C2/B2	7-2	
	03	RCT	7	0F	R CUTOFF	SECAM/others	A0	C3/BD	3-0	
	04	GCT	7	0F	G CUTOFF	SECAM/others	A0	C4/BE	7-4	
	05	BCT	7	0F	B CUTOFF	SECAM/others	A0	C4/BE	3-0	
	06	BMN	15	1F	BRIGHTNESS MINIMUM DATA		A0	22	6-2	
	07	SBR	1F	3F	SUB BIGHTNESS CONTROL		A0	23	7-2	
	08	APB	0	3	SUB BRIGHT CTR SW FOT PNC #3		A0	23	1-0	
SAJ	00	PMX	33	3F	PICTURE MAXIMUM DATA		A0	21	7-2	
	01	SHU	8	0F	SUB HUE CONTROL	TV/Video	A0	24/38	5-2	
	02	SSH	3	0F	SUB SHARPNESS CONTROL	TV/Video	A0	25/36	7-4	
	03	SCL	1F	3F	SUB COLOR CONTROL	NTSC/others	A0	37/26	7-2	
VP	00	EHT	4	0F	EHT COMP	50/60Hz	A0	A4/B1	3-0	
	01	GMA	2	03	GAMMA CORRECTION	Refer NVM Map A4	A4	66/67/68/69	1-0	
	02	APG	0	1	GAMMA CONTROL SWITCH FOR PNC #3		A4	66/67/68/69	2	
	03	YDL	6	0F	Y DELAY	PAL/SECAM/NTSC	A0	B7/B9/B8	3-0	
	04	SST	1	03	SECAM ID START POSITION	SECAM/PAL	A4	6A/6C	5-4	
	05	SSP	1	03	SECAM ID STOP POSITION	SECAM/PAL	A4	6A/6C	7-6	
	06	RLM	0	3	RGB LIMIT		A0	83	1-0	

Adjustment Item Table

TVG	Functionality		Init.	Range	Function	Table & Note	NVM Address			Device Name
Category	No.	Name					Slave	Sub	Bit	Initial data for tables
VP	07	SLV	2	03	SECAM ID LEVEL	SECAM/PAL	A4	6B/6D	1-0	
	08	SBF	22	3F	SECAM BELL FO	SECAM/PAL	A4	6B/6D	7-2	
	09	DYC	1	1	DYNAMIC COLOR ON/OFF		A0	8C	1	
	0A	ABL	1	1	ABL MODE SWITCHING	STANDARD Always 0	A0	8B	1	
	0B	VTH	1	1	ABL DETECTION VTH SWITCHING		A0	8B	0	
	0C	SFO	1	1	FO SWITCHING FOR SHARPNESS	NTSC/others	A4	5C/59	1	
	0D	DCX	1	1	DC TRANS. RATIO SWITCHING		A0	88	1	
	0E	SHT	1	1	PRE-/OVERSHOOT RATIO SWITCH	NTSC/others	A4	5D/5A	0	
	0F	HDW	0	1	H DRIVE PULSE WIDTH SWITCH		A0	80	6	
	10	AFC	1	03	AFC GAIN CONTROL	TV/Video/Text	A0	28/29/2A	1-0	
	11	HOS	7	0F	H OSCILLATION		A0	8E	7-4	
	12	HSS	0	1	SLICE LEVEL OF H SYNC SEP.		A0	8F	1	
	13	VSS	0	1	SLICE LEVEL OF V SYNC SEP.		A0	8F	0	
	14	HMS	1	1	MACRO VISION C/M OFF/ON	50/60Hz	A0	9D/AA	0	
	15	YUV	0	1	YUV SWITCH CONTROL		A0	80	2	
	16	CDV	1	3	CD MODE FOR VIDEO AND RF UNDER NO SIGNAL	video only	A0	2B	5-4	
	17	RON	1	1	R ON	not memorized	A0	81	2	
	18	GON	1	1	G ON	not memorized	A0	81	1	
	19	BON	1	1	B ON	not memorized	A0	81	0	
	1A	PON	1	1	P ON	not memorized	A0	80	7	
	1B	AXN	1	1	AXIS SW	NTSC/others (only for DYNAMIC)	A0	37/26	0	
	1C	RSL	0	1	RGB SEL		A0	8C	0	
	1D	VBW	1	3	VBLKW		A0	96	1-0	
	1E	RFP	0	1	REFP		A0	94	0	
	1F	JMP	0	1	JUMP		A0	9A	0	
	20	VMC	02	3	VM OFF		A0	83	3-2	
AP	00	INF	5	3F	INPUT ATTENUATION WHEN SURROUND OFF		A0	73	5-0	
	01	INS	0A	3F	INPUT ATTENUATION WHEN SURROUND ON (XG-ONLY)		A0	74	5-0	
	02	SEF	0	0F	SURROUND EFFECT CONTROL (XA-ONLY)		A0	76	6-3	
	03	PH1	3	3	PHASE 1 REGISTER SELECTION		A0	77	1-0	
	04	PH2	0	3	PHASE 2 REGISTER SELECTION (XG-ONLY)		A0	77	3-2	
	05	PH3	0	3	PHASE 3 REGISTER SELECTION (XG-ONLY)		A0	77	5-4	
	06	PH4	0	3	PHASE 4 REGISTER SELECTION (XG-ONLY)		A0	77	7-6	
	07	BCS	2	3	BASS CENTER SHIFT		A0	57	1-0	
	08	TCS	2	3	TREBLE CENTER SHIFT		A0	58	1-0	
	09	TRF	2	3	RF TREBLE OFFSET		A0	58	5-4	
MSP	00	WST	15	FF	W/G STEREO THRESHOLD		A0	60	7-0	
	01	WBT	EA	FF	W/G BILINGUAL THRESHOLD		A0	61	7-0	
	02	WLL	5	FF	W/G MONAURAL THRESHOLD		A0	62	7-0	
	03	WAC	0	0F	W/G AGREEMENT COUNT		A0	63	3-0	
	04	WDL	30	FF	W/G SEARCH DELAY		A0	64	7-0	
	05	NDL	20	FF	NICAM SEARCH DELAY		A0	65	7-0	
	06	SDL	10	FF	STEREO STATUS READ DELAY		A0	66	7-0	

Adjustment Item Table

TVG	Functionality		Init.	Range	Function	Table & Note	NVM Address			Device Name
Category	No.	Name					Slave	Sub	Bit	Initial data for table
	07	AGC	1	1	AGC SWITCH AUTO/CONSTANT		A0	68	7	
	08	REL	28	3F	AGC GAIN AT CONSTANT MODE		A0	68	6-1	
	09	CRM	0	1	CARRIER MUTING ON/OFF		A0	67	1	
	0A	ACO	1	1	AUDIO CLOCK OUT ON/OFF		A0	69	5	
	0B	FP	1B	7F	FM PRESCALE FOR NON-M SYSTEM		A0	6A	6-0	
	0C	FPM	32	7F	FM PRESCALE FOR M SYSTEM		A0	6B	6-0	
	0D	FH	36	7F	FM PRESCALE FOR HDEV		A0	6C	6-0	
	0E	FHM	65	7F	FM PRESCALE FOR HDEV AND M		A0	6D	6-0	
	0F	WGP	2A	7F	W/G PRESCALE		A0	6E	6-0	
	10	NIP	6D	7F	NICAM PRESCALE		A0	6F	6-0	
	11	ERR	50	FF	AUTO FM SWITCH THRESHOLD		A0	70	7-0	
	12	VOL	6D	FF	LOUD SPEAKER GAIN 7000H TO 7FF0H		A4	62	7-0	
TXT	00	TXH	0	3	TELETEXT HORIZONTAL POSITION		A4	55	1-0	
	01	TXV	0	3	TELETEXT VERTICAL POSITION		A4	55	5-4	
OPM	00	OSH	0A	3F	OSD H POSITION	Option-Misc	A0	27	7-2	
	01	COM	1	03	COMB SELECTION		A0	50	7-6	
	02	APC	1	1	APC SWITCH		A0	4F	5	
	03	TSY	0	03	TV SYS AT AUTO TV SYS		A0	4F	4-3	
	04	MUT	0	1	NO SIGNAL MUTE		A0	4F	0	
	05	AFM	0	1	AUTO FM SWITCH		A0	4F	1	
	06	RFB	0	3	C-BPF CONTROL		A0	50	5-4	
	07	TVO	0	7	TILT TO V-ANGLE OFFSET		A0	50	2-0	
	08	DBL	0	1	DISABLE BLUEBACK FUNCTION		A0	4F	2	
OPB	00	OP1	FF	FF	OPTIONAL BITS 1 (SEE BELOW)	Option-Misc	A0	2D	7-0	
	01	OP2	G2	FF	OPTIONAL BITS 2 (SEE BELOW)		A0	2E	7-0	
	02	OP3	B1	FF	OPTIONAL BITS 3 (SEE BELOW)		A0	2F	7-0	
	03	OP4	02	FF	OPTIONAL BITS 4 (SEE BELOW)		A0	30	7-0	

NOTE

- shaded items are fixed data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory.
  In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

ITEM INFORMATION
No. OPB0 OP1

Item	XTAL 4.43	XTAL 3.58	SECAM	2nd. Lang	B/G	I	D/K	M
KV-XA21M83 (India)	1	1	1	1	1	1	1	1
KV-XA21M93 (India)	1	1	1	1	1	1	1	1
KV-XA21M83 (Vietnam)	1	1	1	1	1	1	1	1
KV-XA51M61 (Indnesia)	1	1	1	1	1	1	1	1
KV-XA21N93 (Philippines)	1	1	1	1	0	0	0	1
KV-XA21P80 (ME)	1	1	1	1	1	1	1	1

Note: when Bit 7, 6 & 5 = 000, Only Pal color system is selected.
whenBit 7 is selected, Auto PAL & NTSC4.43 Color system is enable
when Option is single color system, Color systm cannot be changed & "AUTO" will not be displayed.

No. OPB1 OP2

Item	TOP	NICAM	HDEV	Thai Bil.	Dis Fav.	DVD Input	AV Input	
KV-XA21M83 (India)	0	0	0	0	0	0	1	0
KV-XA21M93 (India)	0	1	1	0	0	0	1	0
KV-XA21M83 (Vietnam)	0	0	0	0	0	0	1	0
KV-XA51M61 (Indnesia)	0	1	1	0	0	0	1	0
KV-XA21N93 (Philippines)	0	0	0	0	0	0	1	0
KV-XA21P80 (ME)	0	1	1	0	0	0	1	0

AV Input	00 = no AV Input	01 = 1 AV Input
	10 = 2 AV Input	11 = 3 AV Input
DVD Input	Effective only when "AV Input" is set to 3 AV Input	
Dis Fav.	Disable Favorite Channel (Effective For XF-L (21" & 14") Models Only)	

No. OPB2 OP3

Item	Pic Rot*1	2199 Curve*1	Auto PIC	A-TV sys	US ST	AV Mono*1	11 Key	Color SW *2 & *1
KV-XA21M83 (India)	1	0	1	0	0	0	0	1
KV-XA21M93 (India)	1	0	1	1	0	0	0	1
KV-XA21M83 (Vietnam)	1	0	1	0	0	0	0	1
KV-XA51M61 (Indnesia)	1	0	1	1	0	0	0	1
KV-XA21N93 (Philippines)	0	0	1	0	1	0	0	1
KV-XA21P80 (ME)	1	0	1	1	0	0	0	1

PIC Rotate*1	PIC Rotation Switch	0 = disabled, 1 = enabled
2199 Curve*1	2199 volume Curve Selection	0 = Others, 1 = 2199 Volume Curve.
Auto PIC*3	Auto Picture Improvement	0 = inactive, 1 = active
A-TVsys	Auto TV System in Auto Program	0 = disabled, 1 = enabled
US ST*	USA Stereo	0 = disabled, 1 = enabled
AV MONO*1	AV Mono model	0 = Stereo, 1 = Mono (No Balance & Surround selection)
11 Key	Front Key Selection	0 = 7 key model, 1 = 11 key model
Color SW*2 & *1	Color Data Selection in Dynamic Mode	0 = 65 (No PIP), 1 = 57 (PIP)

Note: *1 - For XA21/XG25 Models Only
*2 - For XA34/29/25 Models Only

No. OPB3 OP4

Item	–	–	–	–	–	–	AP_XG*1	–
KV-XA21M83 (India)	0	0	0	0	0	0	0	0
KV-XA21M93 (India)	0	0	0	0	0	0	0	0
KV-XA21M83 (Vietnam)	0	0	0	0	0	0	0	0
KV-XA51M61 (Indnesia)	0	0	0	0	0	0	1	0
KV-XA21N93 (Philippines)	0	0	0	0	0	0	0	0
KV-XA21P80 (ME)	0	0	0	0	0	0	1	0

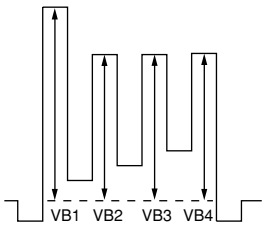
AP_XG*1 To select the XG AP (board B6) 0: No; 1 = Yes

Note: *1 - For XA-21/XG25 Models Only

4-3. PICTURE QUALITY ADJUSTMENTS

SUB COLOR ADJUSTMENT

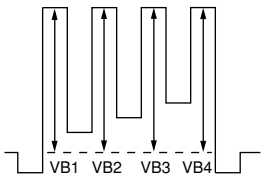
1. Select Video.
2. Input a PAL color-bar.
3. Set to the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Set to Service Mode and select SAJ 'SCL' with [1] and [4] of the commander then adjust to VB2=VB3=VB4 with [3] and [6].
6. Press [MUTING] → [0] of the commander to write the data.
7. Adjust SAJ 'SCL' as step 3 to 5 when receiving NTSC color-bar.
8. XA21" no wide-mode function.



VB2 = VB3 = VB4

SUB HUE ADJUSTMENT

1. Select Video 1.
2. Input a NTSC 3.58 color-bar, video into Video 1.
3. Set the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin 1 (B OUT) of CN305, A board.
5. Select SAJ O1 "SHU" with 1 and 4 of the commander by setting to Service Mode and adjust to VB1=VB2=VB3=VB4 with 3 and 6.



VB1 = VB2 = VB3 = VB4

6. Press [MUTING] → [0] of the commander to write the data.
7. Adjust SAJ O1 "SHU" as step 3 to 6 when receiving TV mode.

4-4. DEFLECTION ADJUSTMENT

NORMAL MODE (50Hz)

1. Set to Service Mode.
2. Using the [1] and [4] button, select category GEO (Service Mode).
3. Raise/lower the data using the [3] and [6] buttons.
   Select and adjust the following items to obtain optimum image.

Service Item

GEO :	00	HPS	H POSITION
	01	HSZ	H SIZE
	02	PAP	PIN AMP
	03	TLT	TILT
	04	VPS	V POSITION
	05	VSZ	V SIZE
	06	SCO	S CORRECTION
	07	VLN	V LINEARITY
	08	BOW	AFC BOW
	09	AGL	AFC ANGLE
	0A	UPN	UPPER CORNER PIN
	0B	LPN	LOWER CORNER PIN

NORMAL MODE (60Hz)

11. Input 525/60Hz signal.
12. Using the [1] and [4] buttons select category GEO (Service Mode).
13. Select and adjust the following items to obtain obtimum image.
    Raise/lower the data with the [3] and [6] buttons.

Service Item

GEO :	00	HPS	H POSITION
	01	HSZ	H SIZE
	02	PAP	PIN AMP
	03	TLT	TILT
	04	VPS	V POSITION
	05	VSZ	V SIZE
	06	SCO	S CORRECTION
	07	VLN	V LINEARITY
	08	BOW	AFC BOW
	09	AGL	AFC ANGLE
	0A	UPN	UPPER CORNER PIN
	0B	LPN	LOWER CORNER PIN

Note:

For Deflection Adjustment, set PICTURE MODE to "SOFT".

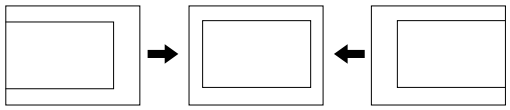
4-5. A BOARD ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

1. Enter to Service Mode.
2. Press commander buttons [5] and [0] (Data Initialize), and [2] and [0] (Data Copy) to initialize the data.
3. Call each item number and check if the respective screen shows the normal picture.
   In cases where items are not well adjusted, rectify the fine adjustment.
   Write the data per each item number ([MUTING] + [0]).
4. Select item numbers "OPB00" (OP1), "OPB01" (OP2), "OPB 02" (OP3) and "OPB 03" (OP4) respectively set the bit per model with command buttons [3] and [6].
5. Press commander buttons [8] and [0] (Test Normal) to return to the data that was set on the shipment from the factory.
   (This will also cancel Service Mode.)

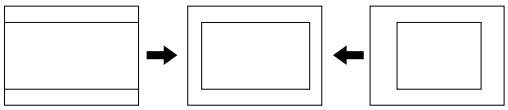
4-6. PICTURE DISTORTION ADJUSTMENT (1)

Item Number 00 – 0B

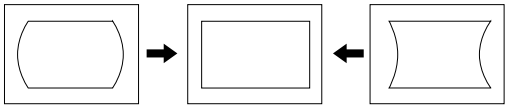
GEO 0 HPS (H POSITION)



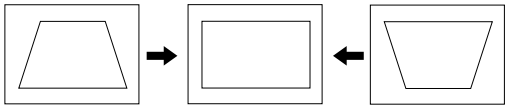
GEO 1 HSZ (H SIZE)



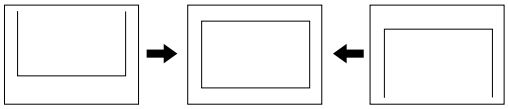
GEO 2 PAP (PIN AMP)



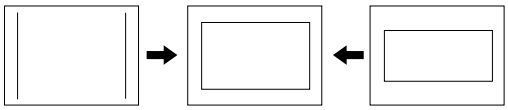
GEO 3 TLT (TRAPEZIUM)



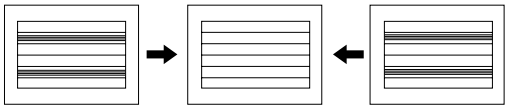
GEO 4 VPS (V POSITION)



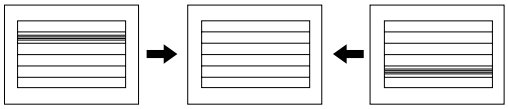
GEO 5 VSZ (V SIZE)



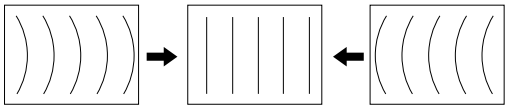
GEO 6 SCO (VERTICAL S-Correction)



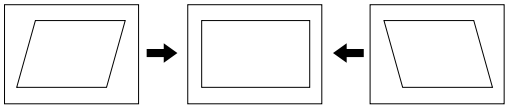
GEO 7 VLN (V LINEARITY)



GEO 8 BOW (AFC.BOW)

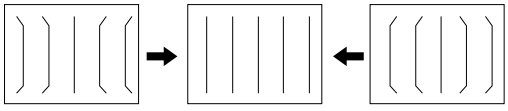


GEO 9 AGL (AFC.ANGLE)



GEO 0A UPN (UPPER CORNER PIN)

GEO 0B LPN (LOWER CORNER PIN)



KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
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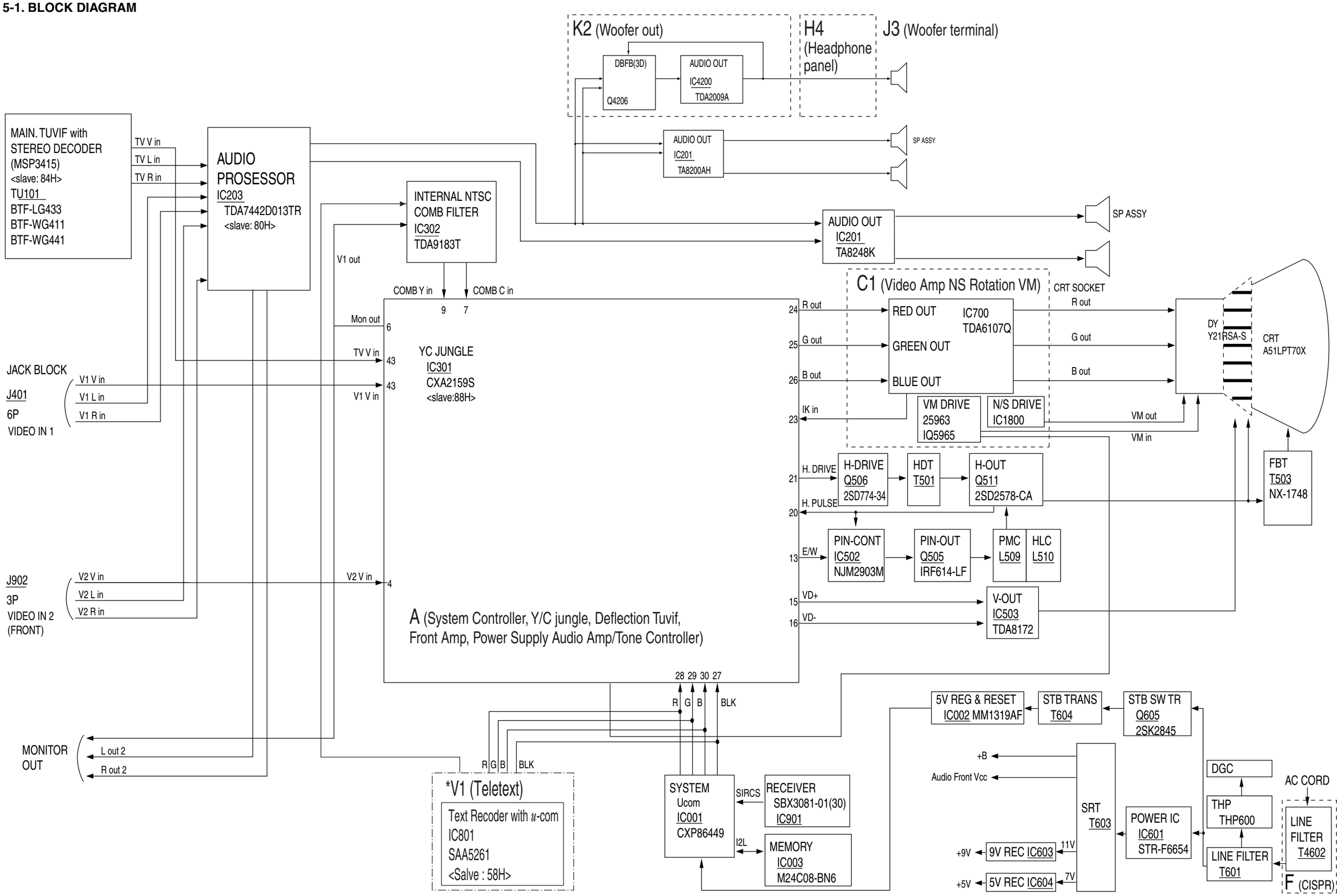
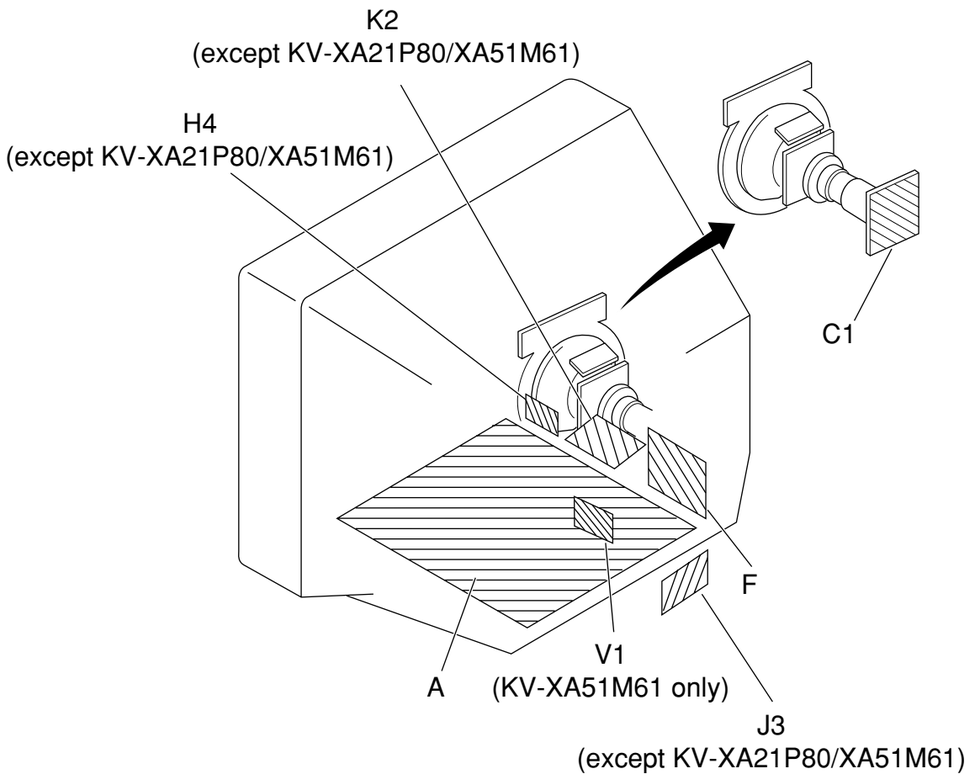
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM



5-2. CIRCUIT BOARDS LOCATION



KV-XA21M83/XA21M93/XA51M61/XA21P80
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KV-XA21N93
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5-3. SCHEMATIC DIAGRAM

Note:

- All capacitors are in µF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)

- : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation or adjustment for rrepair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Redings are taken with a color-bar signal input.**
  no mark : Common
- **underline : PAL**
  ( ) : SECAM
  [ ] : NTSC 3.58
  << >> : NTSC 4.43
- **Readings are taken with a 10 M digital m ultimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltage are in V.**
- **✻ : Cannot be measured.**
- **Circled numbers are waveform references.**
- **▬▬ : B +bus.**
- **▪ ▪ ▪ : B –bus.**
- **⇨ : signal path.**

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ✻	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

KV-XA21M83/XA21M93/XA51M61/XA21P80
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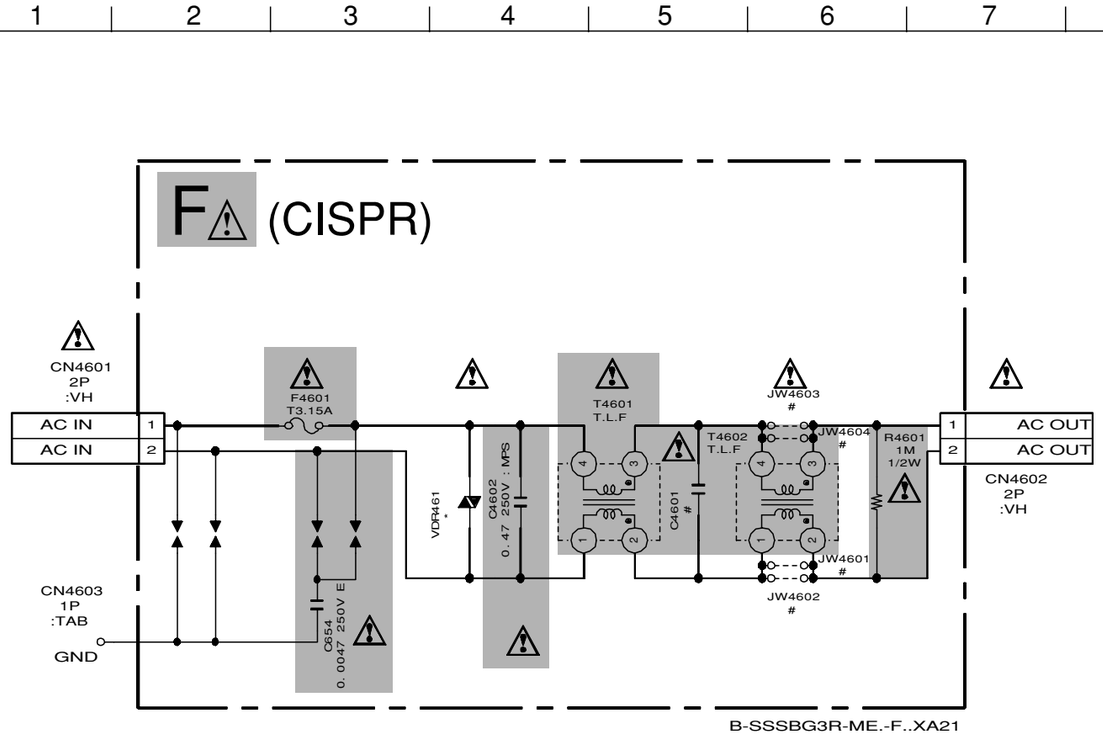
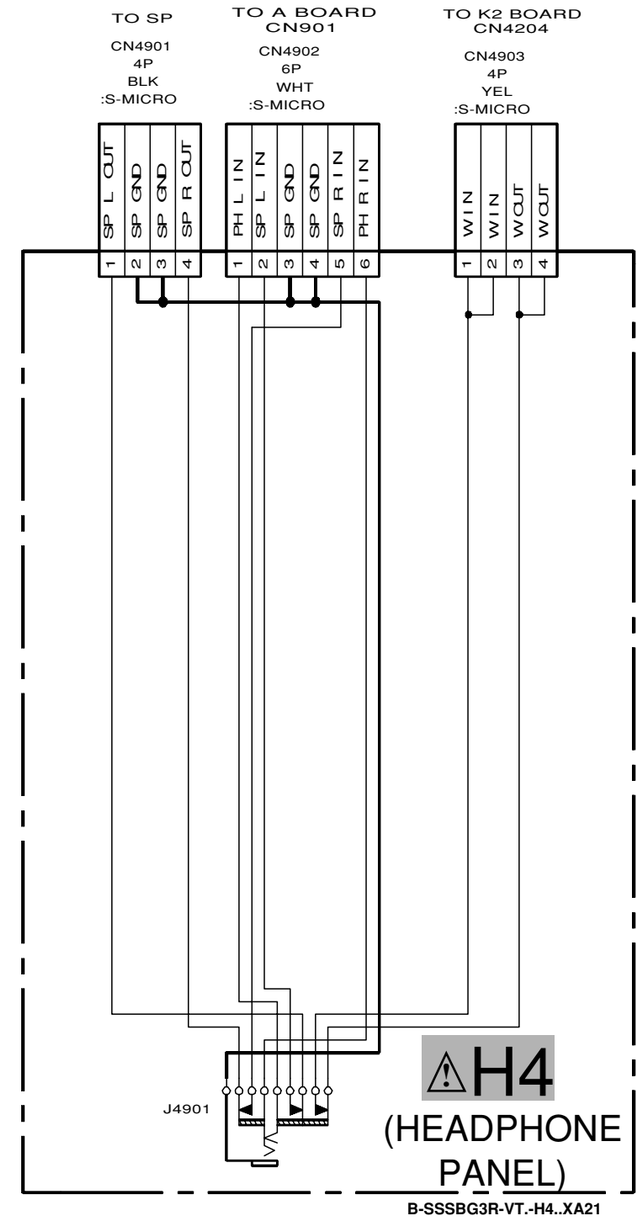
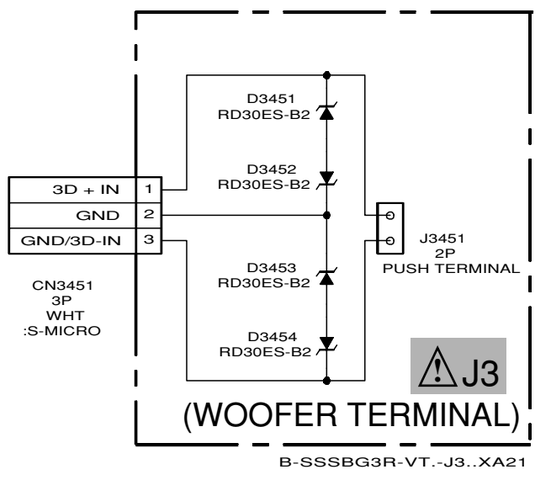
(1) Schematic Diagrams of F, J3 and H4 Boards



(except KV-XA21P80/XA51M61)



(except KV-XA21P80/XA51M61)



KV-XA21M83/XA21M93/XA51M61/XA21P80
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KV-XA21N93
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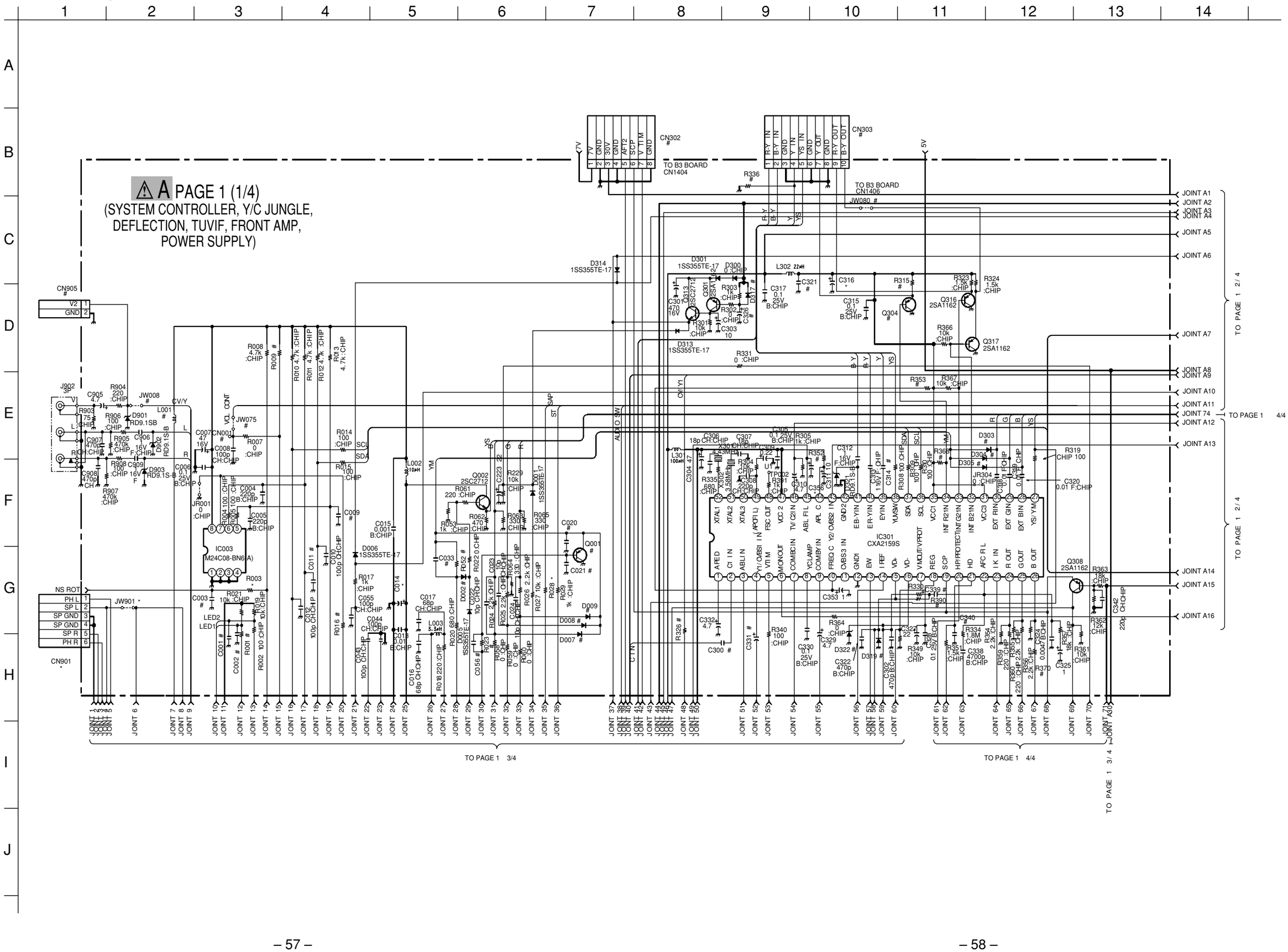
(2) Schematic Diagram of A Board



KV-XA21M83/XA21M93/XA51M61/XA21P80
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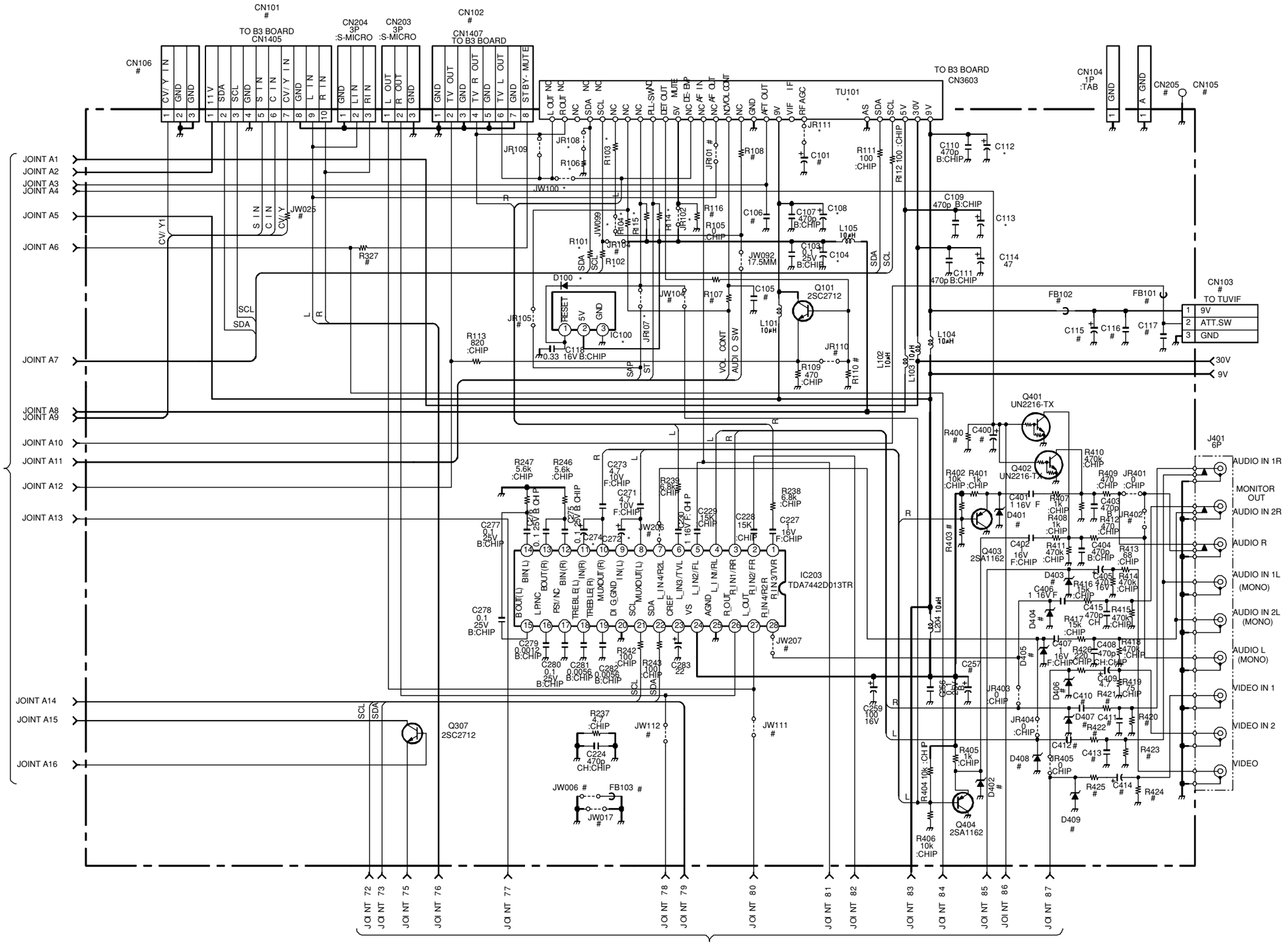
RM-915

⚠A PAGE 1 (2/4)

(SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)



KV-XA21M83/XA21M93/XA51M61/XA21P80
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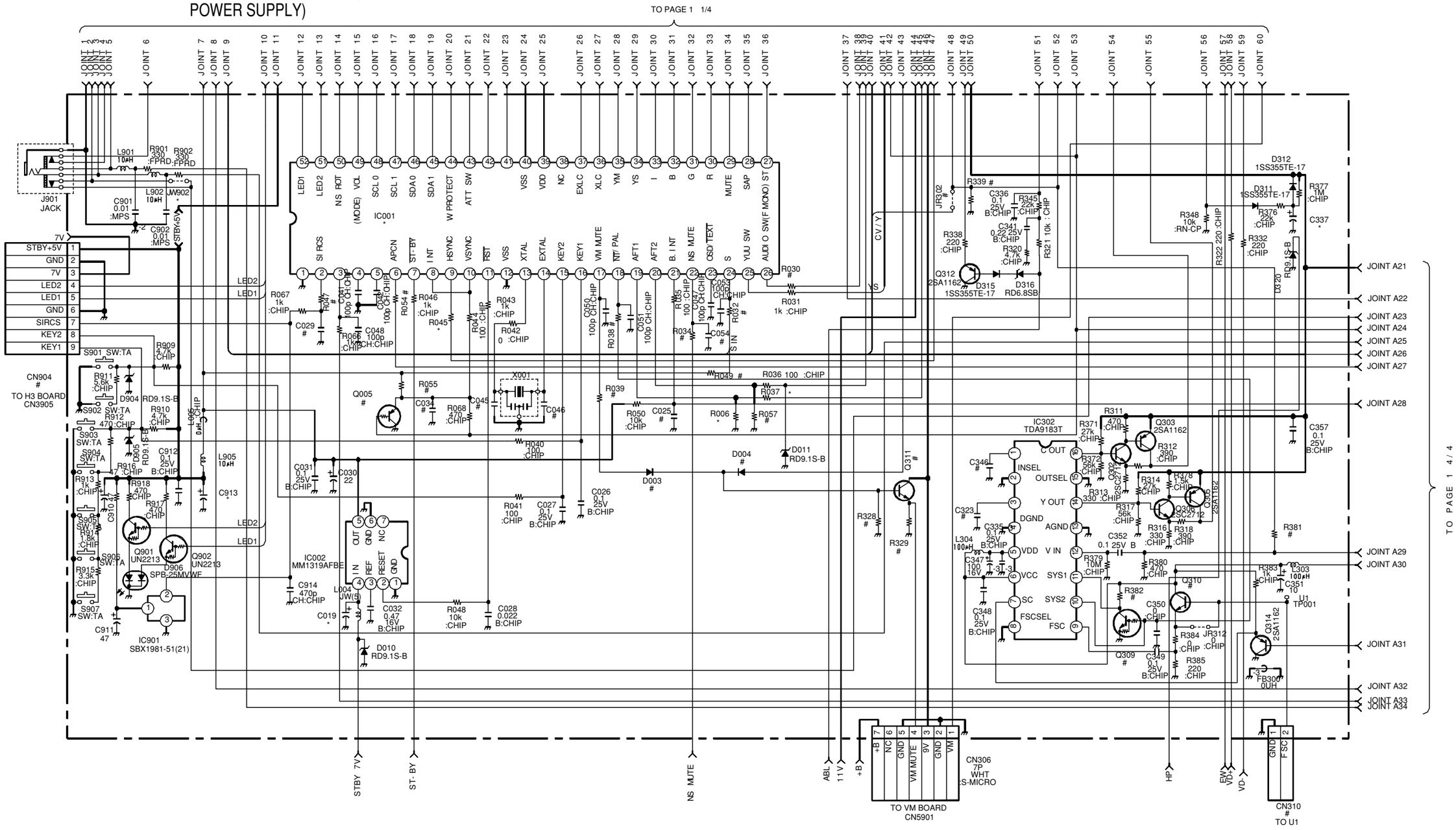
KV-XA21N93
RM-915

⚠A PAGE 1 (3/4)

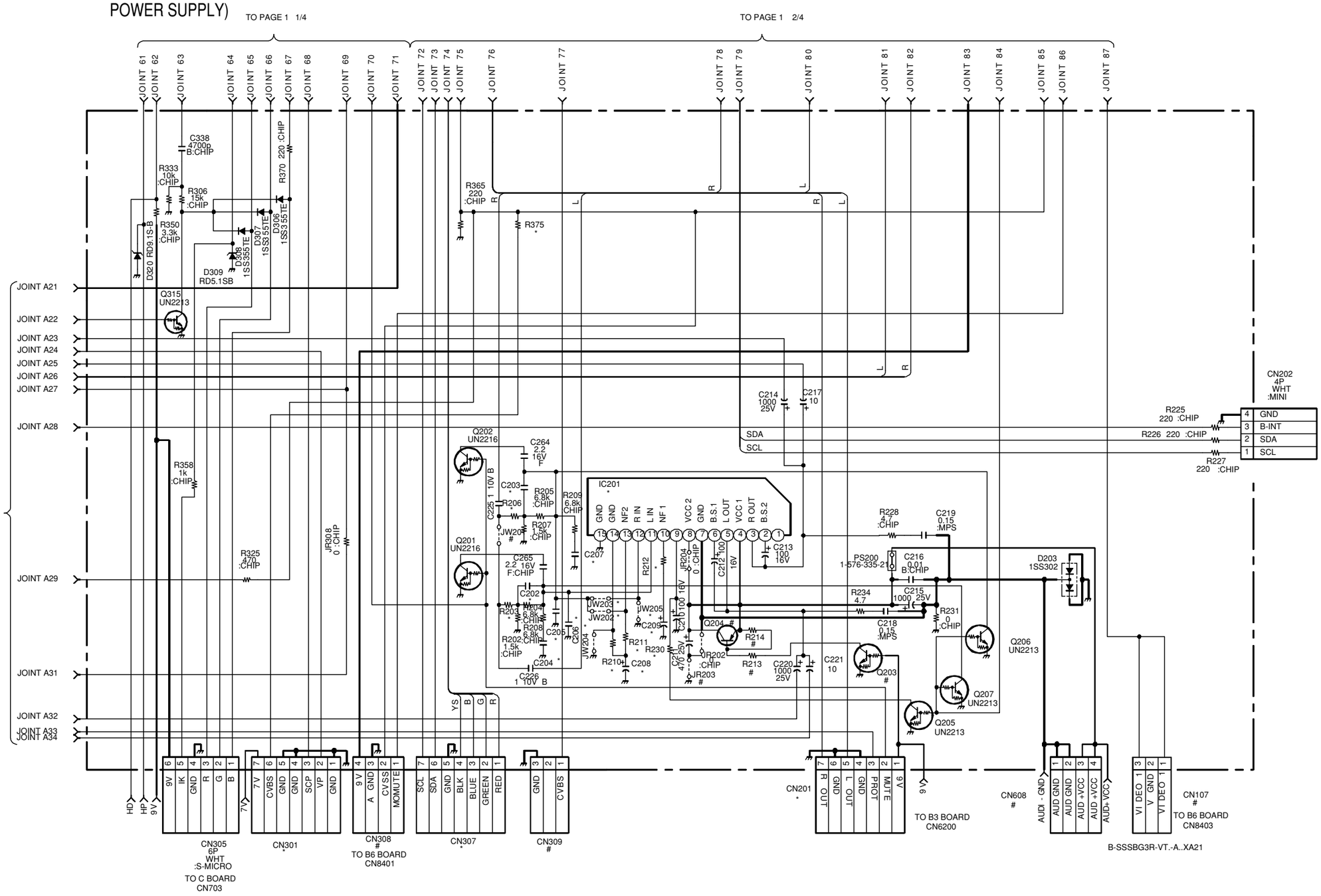
(SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)



KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

⚠A PAGE 1 (4/4)

(SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)



KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
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1 2 3 4 5 6 7 8 9 10 11 12 13 14

A B C D E F G H I J

⚠A PAGE 2 (1/4)
(SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)

NS ROT
NS MUTE
EW
VD+
VD-
ABL
HD
HP

JOINT A1
JOINT A2
JOINT A3
JOINT A4
JOINT A5
JOINT A6
JOINT A7
JOINT A8
JOINT A9
JOINT A10
JOINT A11
JOINT A12
JOINT A13

L517 #
C501 #
C551 1
R523 330
C564 0.1 25V F:CHIP
Q503 2SC2712
R518 100
C583 #
R516 22k :CHIP
C508 #
R615 1.2 1W :RS
D504 EL1Z PIN-OUT
R521 JW(15)
C506 33 160V
R601 1.2k :FPRD
C643 *
L601 15µH :LHL08
D628 1SS119-25
R657 220k 1/2W
Q604 2SA1091-0 PE2
R607 4.7k
R619 270k 1/2W
R600 56k
R652 22k 3W :RS
9V
30V
C629 10
D620 RD30ES-B2
R561 #
R566 #

C644 0.0022 1kV R
D631 ERC04-06SE
D632 ERC04-06SE
C657 0.0022 500V E
TH600 1-803-586-11
R602 4.7 :FPRD
R603 *
C656 #
T604 SRT
C645 0.01 250V
D633 ERA22-08
C646 10 450V
R608 22M 1/2W
D635 MA111-(K8)-S0
Q605 2SK2845-LB102
D623 DTZ-TT11-15B
C647 0.001 CH:CHIP
R609 2.2k :CHIP
D634 MA111-(K8)-S0
R617 22
D624 MA111-(K8)-S0
R610 10k :CHIP
C648 #
R611 47k :CHIP
D636 D1NS4
FB611 1.1UH
C649 330 25V
STBY 7V
R680 #
C650 0.001 CH:CHIP
C655 #
C651 470p CH:CHIP
D637 RD6.8ES-B
FB610 #
R612 680 :CHIP
R614 470 :CHIP
D638 11ES2
R616 6.8 1/2W :FPRD
Q606 2SC2712
C604 0.001 B:CHIP
C636 0.047 B:CHIP
C652 22
Q608 2SC2712
R659 1k :CHIP
D625 DTZ10B
R660 10k :CHIP

JOINT 1
JOINT 2
JOINT 3
JOINT 4
JOINT 5
JOINT 6
JOINT 7
JOINT 8
JOINT 9
JOINT 10
JOINT 11
JOINT 12

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KV-XA21M83/XA21M93/XA51M61/XA21P80
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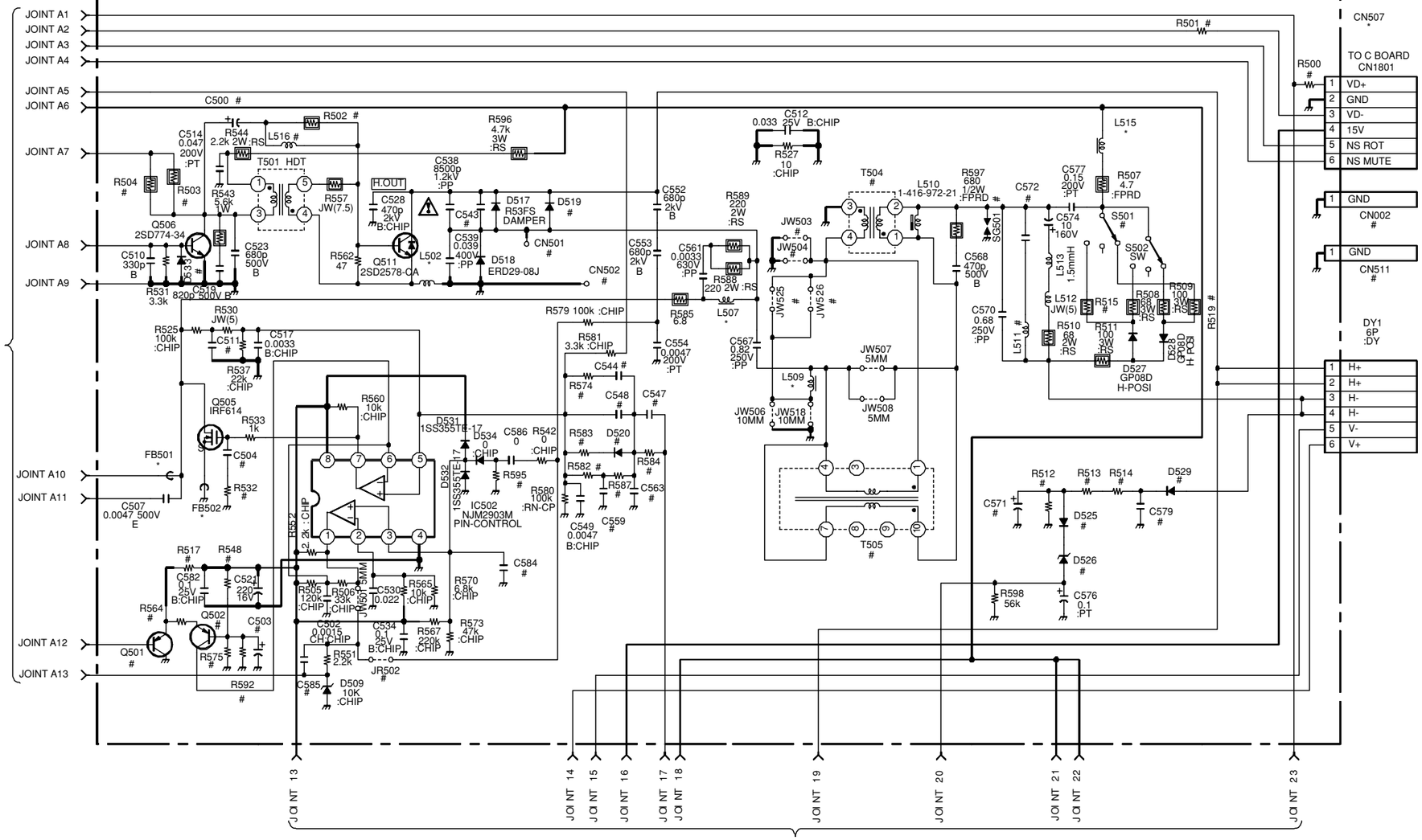
⚠A PAGE 2 (2/4)

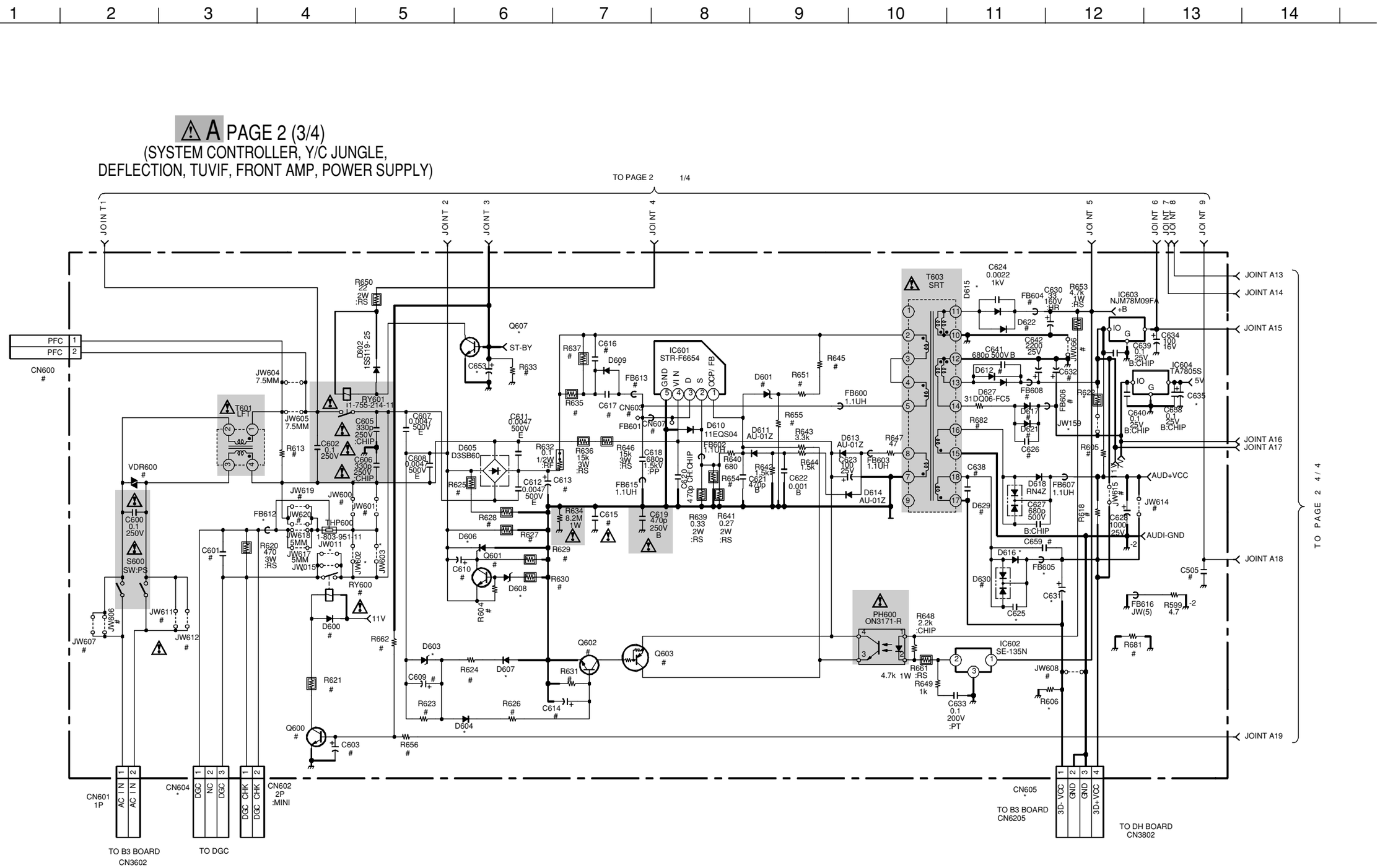
(SYSTEM CONTROLLER, Y/C JUNGLE,DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)



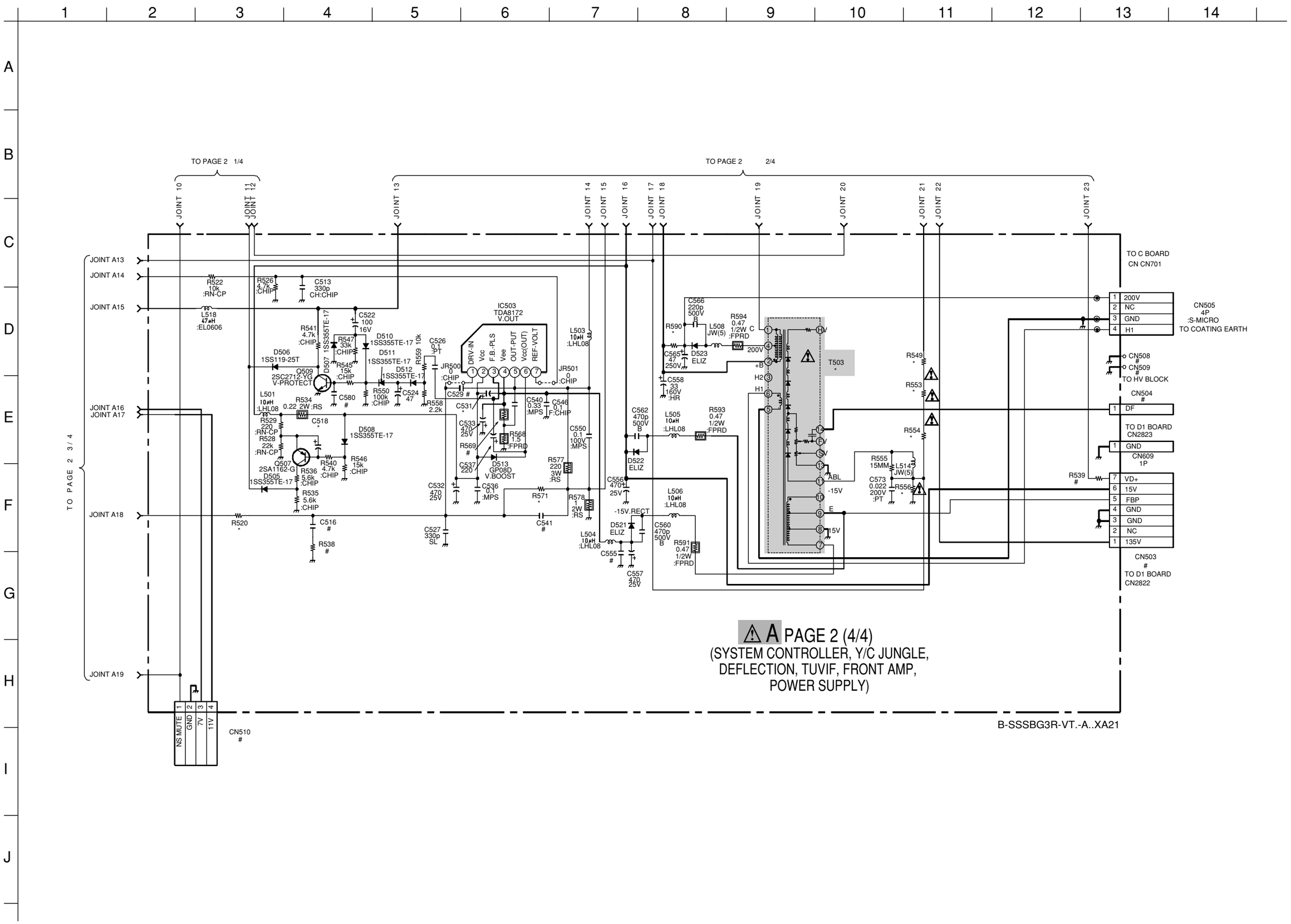
KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

⚠A PAGE 2 (3/4)

(SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)

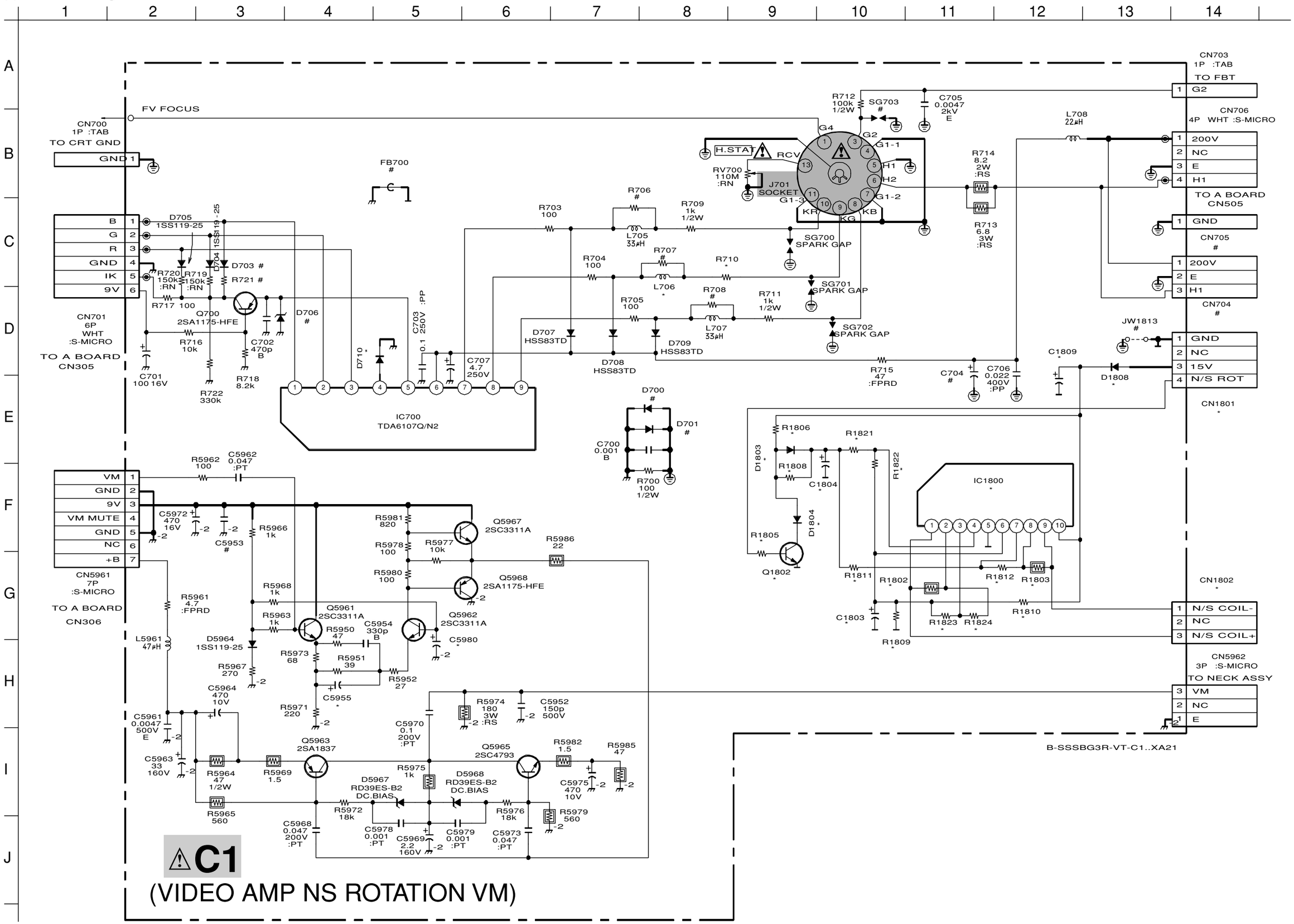


KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915



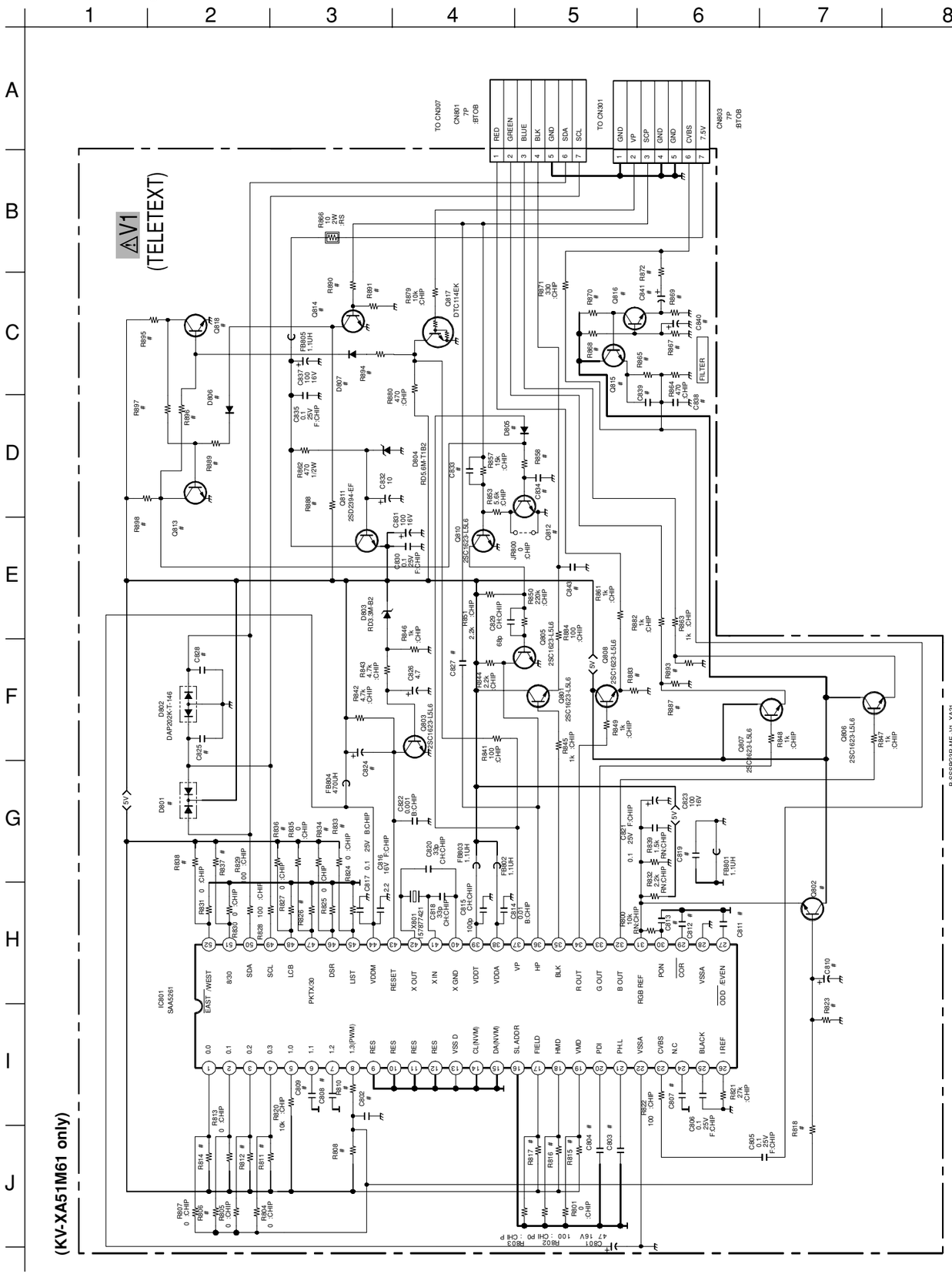
KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

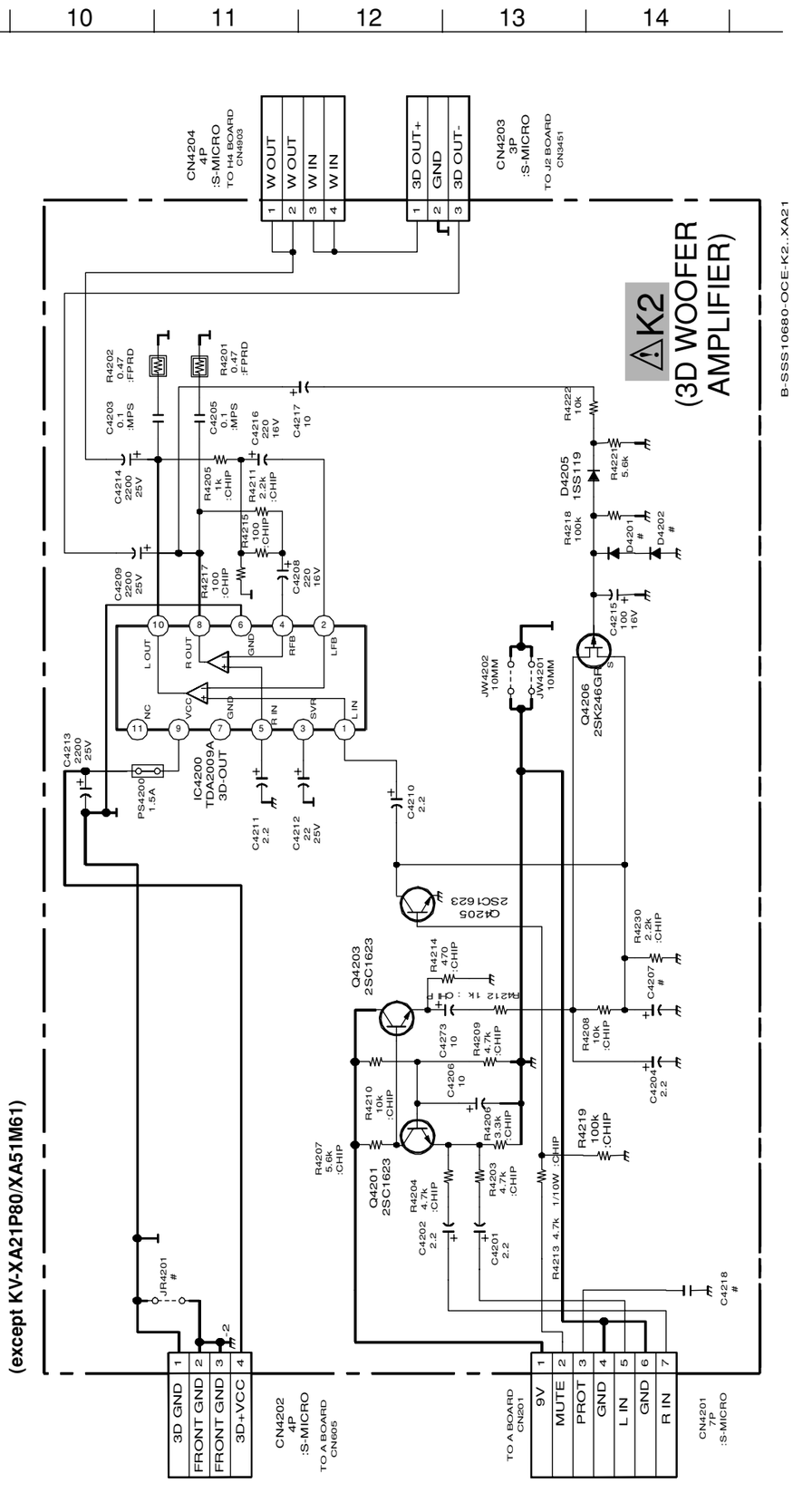
(3) Schematic Diagram of C1 Board



KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

(4) Schematic Diagrams of K2 and V1 Boards





A(1/2) BOARD ✻ MARK LIST

	KV-XA21M83 (Vietnam)	KV-XA21M83 (India)	KV-XA21M93 (India)	KV-XA21N93 (Philippines)	KV-XA21P80 (ME)	KV-XA51M61 (Indonesia)
C202	3300P :CHIP	3300P :CHIP	3300P :CHIP	3300P :CHIP	1500P :CHIP	1500P :CHIP
C203	3300P :CHIP	3300P :CHIP	3300P :CHIP	3300P :CHIP	1500P :CHIP	1500P :CHIP
C204	0.15P :PP	0.15 :CHIP	0.15 :PP	0.15P :CHIP	0.033P :CHIP	0.033P :CHIP
C205	3300P :CHIP	3300P :CHIP	3300P :CHIP	3300P :CHIP	6800P	6800P
C206	3300P :CHIP	3300P :CHIP	3300P :CHIP	3300P :CHIP	6800P	6800P
C207	0.15P :PP	0.15P :PP	0.15P :PP	0.15P :PP	0.033P :PP	0.033P :PP
C208	4.7	4.7	4.7	4.7	10	10
C209	4.7	4.7	4.7	4.7	10	10
C272	2.2	2.2 63V	2.2 63V	2.2	2.2	2.2
C274	2.2	2.2 63V	2.2 63V	2.2	2.2	2.2
C337	2.2	2.2 63V	2.2 63V	2.2	2.2	2.2
C356	3.3M	3.3 63V	3.3 63V	3.3M	3.3M	3.3M
C531	2.2	2.2 63V	2.2 63V	2.2	2.2	2.2
C625	680P 500V	680P 500V	680P 500V	680P 500V	#	#
C631	2200	2200	2200	2200	#	#
CN201	7P	#	7P	7P	#	#
CN301	#	#	#	#	#	7P
CN307	#	#	#	#	#	7P
CN507	4P	4P	4P	#	4P	4P
CN604	2P	2P	2P	3P	3P	3P
CN605	4P	4P	4P	4P	#	#
CN901	6P	4P	6P	6P	4P	4P
D100	#	#	1SS255TE-17	#	#	1SS355TE-17
D616	RN4Z	RN4Z	RN4Z	RN4Z	#	#
FB605	#	INDUCTOR	INDUCTOR	INDUCTOR	INDUCTOR	INDUCTOR
IC001	CXP86449-631S	CXP86449-631S	CXP86449-631S	CXP86449-633S	CXP86449-631S	CXP86449-630S
IC100	#	#	S-80743AL-A7S	#	#	S-80743AL-A7S
IC201	TA8248K	TA8248K	TA8248K	TA8248K	TA8223K	TA8223K
JR008	#	#	#	#	#	0 :CHIP
JR102	0 :CHIP	0 :CHIP	0 :CHIP	#	0 :CHIP	0 :CHIP
JR107	#	#	0 :CHIP	0 :CHIP	#	0 :CHIP
JR108	#	#	#	0 :CHIP	#	#
JR109	0 :CHIP	0 :CHIP	#	#	0 :CHIP	#
JR111	#	#	#	0 :CHIP	#	#
L515	10MMH	10MMH10MMH	COIL WITH CORE	COIL WITH CORE	COIL WITH CORE	
Q607	2SD2144S-UVM	2SD2144S-UVM	2SD2144S-UVM	2SC3576	2SC3576	2SD2144S-UVM
R003	10K :CHIP	10K :CHIP	10K :CHIP	0 :CHIP	10K :CHIP	10K :CHIP
R007	0 :CHIP	0 :CHIP	0 :CHIP	220 :CHIP	#	0 :CHIP
R009	#	#	#	4.7K :CHIP	#	#
R028	#	#	10K :CHIP	1.0K :CHIP	#	#
R037	100 :CHIP	#	100 :CHIP	27K :CHIP	100K :CHIP	100K :CHIP
R045	INDUCTOR	INDUCTOR	INDUCTOR	INDUCTOR	100 :CHIP	100 :CHIP
R101	#	#	100 :CHIP	#	#	100 :CHIP
R102	#	#	100 :CHIP	#	#	100 :CHIP
R103	#	#	#	100 :CHIP	#	#
R104	#	#	#	100 :CHIP	#	#
R106	#	#	#	1.0K :CHIP	#	#
R114	#	#	#	4.7K :CHIP	#	#
R115	#	#	#	4.7K :CHIP	#	#
R203	1.0K :CHIP	1.0K :CHIP	1.0K :CHIP	1.0K :CHIP	4.7K :CHIP	4.7K :CHIP
R206	1.0K :CHIP	1.0K :CHIP	1.0K :CHIP	1.0K :CHIP	4.7K :CHIP	4.7K :CHIP
R210	#	#	#	#	150 :CHIP	#
R211	220 :CHIP	220 :CHIP	220 :CHIP	220 :CHIP	#	#
R212	220 :CHIP	220 :CHIP	220 :CHIP	220 :CHIP	150 :CHIP	150 :CHIP
R230	6.8K :CHIP	6.8K :CHIP	6.8K :CHIP	6.8K :CHIP	6.8K :CHIP	10K :CHIP
R375	#	#	#	#	#	100 :CHIP
R606	4.7 :CHIP	4.7 CHIP	4.7 :CHIP	4.7 :CHIP	#	#
R622	4.7 3W :RS	4.7 3W :RS	4.7 3W :RS	33 3W :RS	33 3W :RS	4.7 3W :RS
T503	NX-1748	#	#	NX-1748	NX-1748	NX-1748
TU101	BTF-LG433	BTF-LG433	BTF-WG441	BTF-WG411	BTF-LG411	BTF-WG441

Note) The parts indicated as '#" in this circuit diagram are not listed here,
as they are not used these models.

KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

K2 BOARD ✻ MARK LIST

	KV-XA21M83 (Vietnam)	KV-XA21M83 (India)	KV-XA21M93 (India)	KV-XA21N93 (Philippines)	KV-XA21P80 (ME)	KV-XA51M61 (Indonesia)
C4201	2.2	2.2 63V	2.2 63V	2.2	#	#
C4202	2.2	2.2 63V	2.2 63V	2.2	#	#
C4204	2.2	2.2 63V	2.2 63V	2.2	#	#
C4210	2.2	2.2 63V	2.2 63V	2.2	#	#
C4211	2.2	2.2 63V	2.2 63V	2.2	#	#
C4212	22 25V	22 35V	22 25V	22 25V	#	#

Note) The parts indicated as '#" in this circuit diagram are not listed here,
as they are not used these models.

C1 BOARD ✻ MARK LIST

	KV-XA21M83 (Vietnam)	KV-XA21M83 (India)	KV-XA21M93 (India)	KV-XA21N93 (Philippines)	KV-XA21P80 (ME)	KV-XA51M61 (Indonesia)
C1803	10	10	10	#	10	10
C1804	10	10	10	#	10	10
C1809	1000 25V	1000 25V	1000 25V	#	1000 25V	1000 25V
CN1801	4P	4P	4P	#	4P	4P
CN1802	3P	3P	3P	#	3P	3P
D1803	1SS119-25	1SS119-25	1SS119-25	#	1SS119-25	1SS119-25
D1804	1SS119-25	1SS119-25	1SS119-25	#	1SS119-25	1SS119-25
D1808	GP08D	GP08D	GP08D	#	GP08D	GP08D
IC1800	LA6510	LA6510	LA6510	#	LA6510	LA6510
R701	1.5K 0.5W	1.5K 0.5W	1.5K 0.5W	1K 1/2W	1K 1/2W	1.5K 0.5W
R1802	1.2	1.2	1.2	#	1.2	1.2
R1803	1.2	1.2	1.2	#	1.2	1.2
R1805	10K	10K	10K	#	10K	10K
R1806	4.7K	4.7K	4.7K	#	4.7K	4.7K
R1808	4.7K	4.7K	4.7K	#	4.7K	4.7K
R1809	33K	33K	33K	#	33K	33K
R1810	33K	33K	33K	#	33K	33K
R1811	82K	82K	82K	#	82K	82K
R1812	33K	33K	33K	#	33K	33K
R1821	82K	82K	82K	#	82K	82K
R1822	33K	33K	33K	#	33K	33K
R1823	5.6K	5.6K	5.6K	#	5.6K	5.6K
R1824	33K	33K	33K	#	33K	33K

Note) The parts indicated as '#" in this circuit diagram are not listed here,
as they are not used these models.

5-4. VOLTAGE LIST MEASUREMENT

A (1/2) BOARD VOLTAGE LIST

Ref	Pin No	Voltage[v]
IC001	1	0
	2	[(4.5)]<4.0>
	3	[(0.5)]<0.3>
	4	5.0
	5	5.0
	6	0
	7	4.0
	8	4.8
	9	0.5
	10	4.8
	11	5.0
	12	0
	13	2.1
	14	2.0
	15	5.0
	16	5.0
	17	0
	18	0
	19	[(2.0)]<2.7>
	20	0.4
	21	5.0
	22	0
	23	5.0
	24	0.4
	25	0
	26	5.0
	27	4.8
	28	5.0
	29	0
	30	0
	31	0
	32	0
	33	5.0
	34	0
	35	0
	36	2.3
	37	2.5
	38	4.9
	39	5.0
	40	0
	41	0.4
	42	0.4
	43	0
	44	5.0
	45	5.0
	46	4.6
	47	5.0
	48	4.4
	49	0
	50	2.0
	51	0
	52	[(5.0)]<0>
IC002	1	0
	2	5.0
	3	4.9
	4	7.3
	5	5.0
	6	0
	7	0
IC003	1	0
	2	0
	3	0
	4	0
	5	5.0
	6	5.0
	7	0
	8	5.0
IC100	1	4.8
	2	4.8
	3	0
IC201	1	0
	2	19.6
	3	10.4
	4	20.0
	5	10.5
	6	19.6
	7	0
	8	20.0
	9	10.3
	10	0.6
	11	0
	12	0
	13	0
	14	0.6
	15	0
IC203	1	4.4
	2	4.4
	3	4.4
	4	4.4
	5	4.4
	6	4.4
	7	4.4
	8	4.4
	9	4.4
	10	4.4
	11	4.4
	12	4.4
	13	4.4
	14	4.4
	15	4.4
	16	4.4
	17	4.4
	18	4.4
	19	4.4
	20	0
	21	4.5
	22	4.5
	23	4.4
	24	8.8
	25	0
	26	3.7
	27	3.7
	28	4.4
IC301	1	3.4
	2	5.0
	3	[(2.4)]<1.9>
	4	5.0
	5	4.8
	6	4.3
	7	1.5
	8	3.8
	9	4.9
	10	3.8
	11	5.0
	12	0
	13	3.8
	14	2.3
	15	3.5
	16	3.4
	17	5.4
	18	7.6
	19	0.8
	20	3.6
	21	3.0
	22	3.8
	23	[(3.0)]<3.5>
	24	1.5
	25	1.5
	26	1.6
	27	0
	28	4.5
	29	4.5
	30	4.5
	31	8.8
	32	4.1
	33	4.1
	34	3.6
	35	8.8
	36	4.5
	37	4.5
	38	0
	39	4.1
	40	4.7
	41	4.7
	42	0
	43	5.1
	44	4.9
	45	[(7.1)]<6.5>
	46	5.0
	47	8.7
	48	0.2
	49	[5.1] (4.3) <0>
	50	0
	51	0
	52	*
IC302	1	0.9
	2	0
	3	1.3
	4	0
	5	4.9
	6	4.9
	7	1.0
	8	0
	9	0.5
	10	0
	11	0
	12	1.6
	13	0
	14	1.5
	15	0
	16	1.5
IC502	1	1.3
	2	3.6
	3	1.2
	4	0
	5	3.4
	6	3.0
	7	6.8
	8	8.9
IC503	1	1.0
	2	13.6
	3	[(-12.4)]<12.1>
	4	-13.6
	5	0.2
	6	13.8
	7	1.0
IC601	1	<[3.3]>(1.8)
	2	1.7 (0.2)
	3	113.3
	4	19.0(17.5)
	5	1.6(0.1)

A (2/2) BOARD VOLTAGE LIST

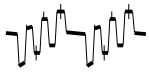
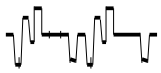
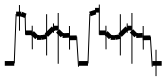
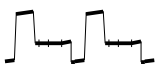
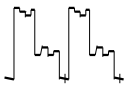
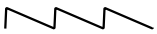
Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
IC602	1	121.1	Q306	B	1.5	Q505	D	[(8.6)]<8.2>
	2	135.0		C	8.1		G	6.9
	3	0		E	0.9		S	0
IC603	I	12.8	Q307	B	4.3	Q506	B	-0.4
	G	0		C	8.7		C	48.6
	O	8.9		E	3.7		E	0
IC604	I	10.5	Q308	B	3.6	Q507	B	13.0
	G	0		C	0.5		C	0
	O	5.0		E	0.8		E	13.5
IC901	1	4.9	Q310	B	0.2	Q509	B	0.6
	2	0		C	4.9		C	0.1
	3	[(4.7)]<4.1>		E	0		E	0
Q002	B	0	Q312	B	5.3	Q511	B	0
	C	5.0		C	0		C	122.6
	E	0		E	[(7.0)]<6.5>		E	0
Q101	B	2.8	Q313	B	0	Q600	B	0
	C	8.9		C	12.7		C	0
	E	2.2		E	0		E	0
Q201	B	0	Q314	B	0.5	Q604	B	133.9
	C	0		C	0		C	0
	E	0		E	1.0		E	134.3
Q202	B	0	Q315	B	0	Q605	D	121.6
	C	0		C	[(1.6)]<1.9>		G	[(-0.4)]<-0.6>
	E	0		E	0		S	-2.1
Q205	B	0	Q316	B	4.1	Q606	B	-1.5
	C	10.3		C	0		C	-0.5
	E	0		E	4.7		E	-2.1
Q206	B	0	Q317	B	4.1	Q607	B	0.7
	C	0		C	0		C	0
	E	0		E	4.7		E	0
Q207	B	0	Q401	B	0	Q608	B	0
	C	0		C	0		C	0.7
	E	0		E	0		E	0
Q301	B	12.8	Q402	B	0	Q901	B	0.1
	C	0		C	0		C	5.0
	E	12.6		E	0		E	0.1
Q302	B	1.5	Q403	B	4.5	Q902	B	0
	C	8.1		C	0		C	5.0
	E	0.9		E	5.2		E	0
Q303	B	8.1	Q404	B	4.5	PH600	1	128.7
	C	1.5		C	0		2	127.7
	E	8.7		E	5.2		3	3.6
Q305	B	8.1	Q503	B	0		4	17.5
	C	1.8		C	3.6			
	E	8.7		E	0			

C1 BOARD VOLTAGE LIST

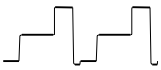
Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]	Ref	Pin No	Voltage[v]
IC700	1	1.6		8	6.6	Q5962	B	2.4
	2	1.6		9	6.6		C	5.3
	3	1.5		10	13.1		E	1.8
	4	0	J701	G2	<[325.8]>(328.2)	Q5963	B	134.1
	5	[(4.9)]<5.3>		H1	0		C	67.1
	6	194.5		KB	[155.8]<(150.3)>		E	134.7
	7	[(160.5)]<154>		KG	<[153.7]>(155.7)	Q5965	B	0.9
	8	[157.4](155)<153>		KR	[(160.8)]<154.57>		C	67.1
	9	[155.3]<(150)>	Q700	B	4.5		E	0.3
IC1800	1	6.7		C	[(3.6)]<4.3>	Q5967	B	5.9
	2	6.7		E	[(4.9)]<5.3>		C	8.9
	3	6.7	Q1802	B	0.3		E	5.6
	4	6.6		C	3.6	Q5968	B	5.3
	5	0		E	0		C	0
	6	6.6	Q5961	B	2.4		E	5.6
	7	6.6		C	8.9			
				E	1.8			

5-5. WAVEFORMS

A BOARD WAVEFORMS

① 4.8Vp-p (V)	② 5.0Vp-p (V)	③ 4.4Vp-p (V)	④ PAL/SECAM  1.2Vp-p (H)	④ NTSC  1.2Vp-p (H)
⑤ 0.9Vp-p (V)	⑥ PAL/SECAM  0.9Vp-p (H)	⑥ NTSC 1.2Vp-p (H)	⑦ 1.0Vp-p (H)	⑧  1.0Vp-p (H)
⑨ 1.4Vp-p (H)	⑩ 3.5Vp-p	⑪  3.2Vp-p (H)	⑫ PAL/SECAM 3.2Vp-p (H)	⑫ NTSC 3.2Vp-p (H)
⑬ 1.4Vp-p (H)	⑭ 110Vp-p	⑮ 194Vp-p	⑯  1.5Vp-p (V)	

C1 BOARD WAVEFORMS

① 25Vp-p (H)	② PAL 89Vp-p (H)	② SECAM 90Vp-p (H)
② NTSC 3.58 80Vp-p (H)	② NTSC 4.43 93Vp-p (H)	③  PAL/SECAM : 95Vp-p (H) NTSC : 86Vp-p (H)
④ 75Vp-p (H)		

MEMO

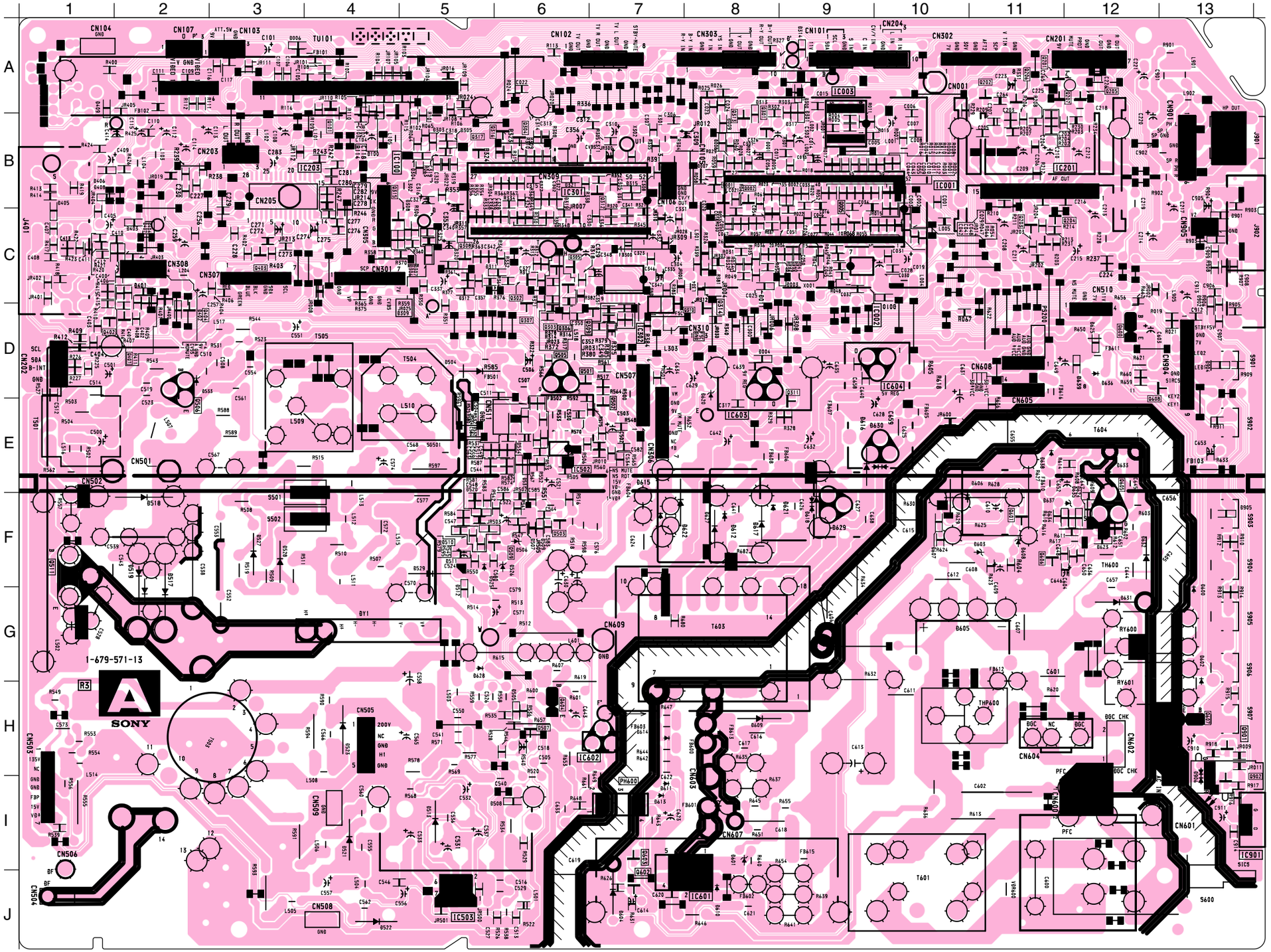
KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

5-6. PRINTED WIRING BOARDS AND PARTS LOCATION

PRINTING WIRING BOARD

A [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY]

– A Board – (Except KV-XA21M83(India)/XA21M93(India))



NOTE:
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

A BOARD

IC

IC001	B-10
IC002	D-10
IC003	A-9
IC100	B-4
IC201	B-12
IC203	B-4
IC301	B-6
IC302	D-7
IC502	E-6
IC503	J-5
IC601	J-8
IC602	H-7
IC603	E-8
IC604	D-10
IC901	I-13

TRANSISTOR

Q001	B-8
Q002	B-8
Q005	B-9
Q101	B-4
Q201	A-11
Q202	A-11
Q203	C-11
Q204	C-12
Q205	A-12
Q206	A-11
Q207	A-12
Q301	A-8
Q302	C-6
Q303	D-6
Q304	B-6
Q305	C-6
Q306	D-6
Q307	D-6
Q308	C-5
Q309	D-7
Q310	D-8
Q311	D-9
Q312	B-7
Q313	B-8
Q314	D-8
Q315	B-4
Q316	B-5
Q317	B-5
Q401	D-2
Q402	D-1
Q403	C-3
Q404	D-2
Q501	D-6
Q502	E-7
Q503	F-6
Q505	D-6
Q506	E-2
Q507	H-6
Q509	F-6
Q511	F-1
Q600	D-12
Q601	F-11
Q602	J-7
Q603	I-7
Q604	H-6
Q605	E-12
Q606	F-11
Q607	H-13
Q608	D-12
Q901	H-13
Q902	H-13

DIODE

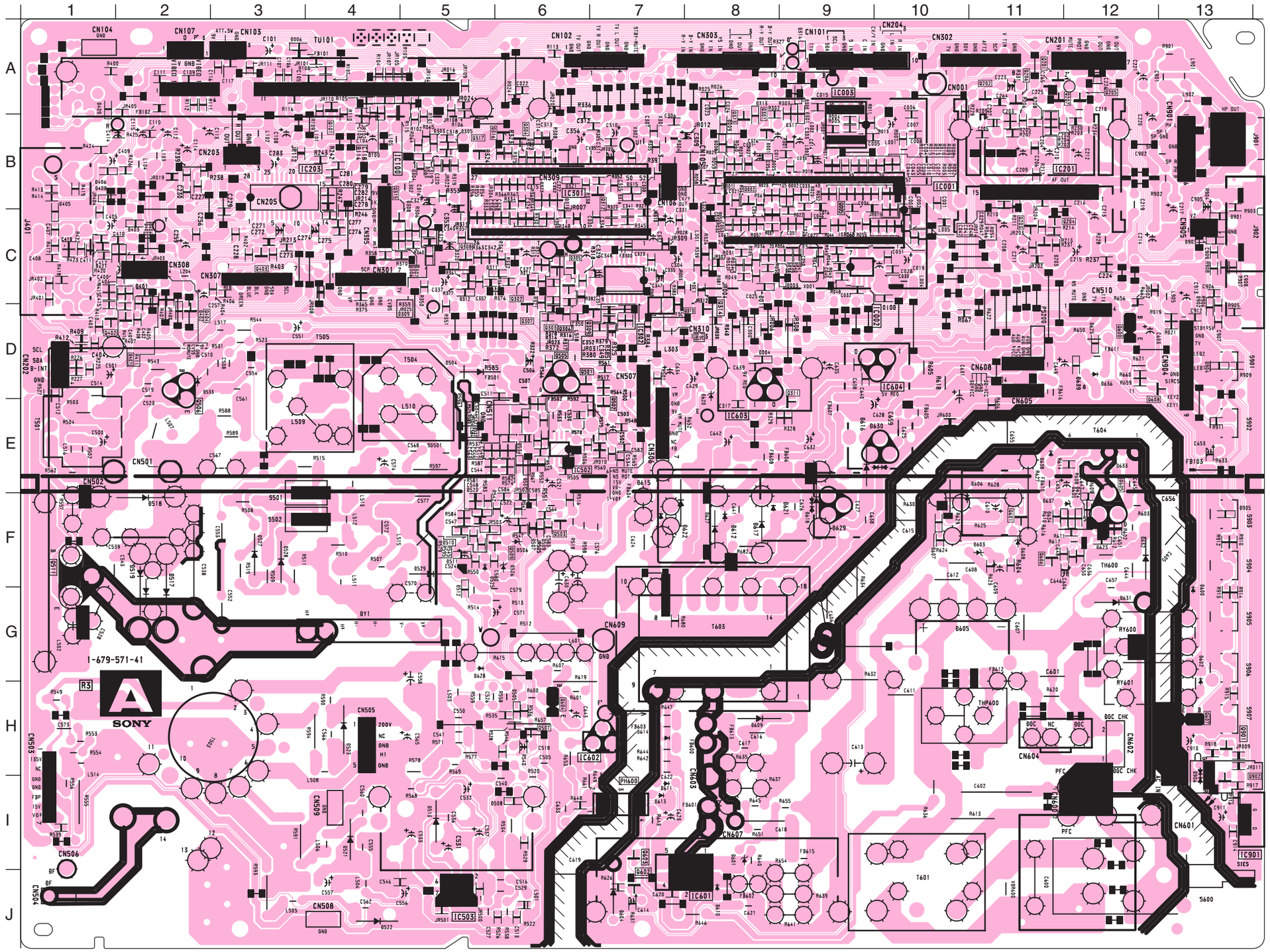
D001	B-8
D002	B-9
D003	C-9
D004	D-8
D005	B-8
D006	A-3
D007	B-8
D008	B-8
D009	B-8
D100	B-4
D203	C-11
D300	A-9
D301	B-9
D303	B-5
D304	B-5
D305	B-5
D306	C-5
D307	C-5
D308	B-5
D309	D-5
D312	C-5
D313	A-8
D314	A-9
D315	B-7
D317	B-9
D319	B-6
D320	C-5
D321	B-6
D322	B-6
D401	C-2
D402	D-2
D403	C-2
D404	C-2
D405	B-1
D406	B-1
D407	C-2
D408	B-1
D409	A-1
D504	D-5
D505	H-6
D506	F-6
D507	F-6
D508	I-6
D509	F-6
D510	F-5
D511	F-5
D512	G-5
D513	I-5
D517	F-2
D518	F-2
D519	F-2
D520	E-5
D521	I-4
D522	J-4
D523	H-4
D525	F-5
D526	F-6
D527	F-3
D528	F-3
D529	F-5
D531	E-6
D533	D-2
D534	E-6
D600	F-13
D601	I-8
D602	G-13
D603	F-11
D604	J-7
D605	G-10
D606	E-11
D607	F-10
D608	F-11
D609	H-8
D610	J-8
D611	I-7
D612	F-8
D613	I-7
D615	E-7
D616	E-9
D617	F-8
D618	F-9
D620	D-8
D621	F-9
D622	F-8
D623	F-12
D624	E-12
D625	E-12
D627	F-8
D628	G-5
D629	F-9
D630	E-10
D631	G-12
D632	F-12
D633	E-12
D634	F-11
D635	F-12
D636	D-12
D637	F-11
D638	E-11
D639	D-12
D901	C-13
D902	C-13
D903	C-13
D904	D-13
D905	F-13
D906	H-13

KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

PRINTING WIRING BOARD

A [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY]

– A Board – (KV-XA21M83(India)/XA21M93(India))



A BOARD

IC

IC001	B-10
IC002	D-10
IC003	A-9
IC100	B-4
IC201	B-12
IC203	B-4
IC301	B-6
IC302	D-7
IC502	E-6
IC503	J-5
IC601	J-8
IC602	H-7
IC603	E-8
IC604	D-10
IC901	I-13

TRANSISTOR

Q001	B-8
Q002	B-8
Q005	B-9
Q101	B-4
Q201	A-11
Q202	A-11
Q203	C-11
Q204	C-11
Q205	A-12
Q206	A-11
Q207	A-12
Q301	A-8
Q302	C-6
Q303	D-6
Q304	B-6
Q305	C-6
Q306	D-6
Q307	D-6
Q308	C-8
Q309	D-7
Q310	D-7
Q311	D-9
Q312	B-7
Q313	B-8
Q314	D-8
Q315	B-4
Q316	B-5
Q317	B-5
Q401	D-2
Q402	D-1
Q403	C-3
Q404	D-2
Q501	D-6
Q502	E-7
Q503	F-6
Q505	D-6
Q506	E-2
Q507	H-6
Q509	F-6
Q511	F-1
Q600	D-12
Q601	F-11
Q602	J-7
Q603	I-7
Q604	H-6
Q605	E-12
Q606	F-11
Q607	H-13
Q608	D-12
Q901	H-13
Q902	H-13

DIODE

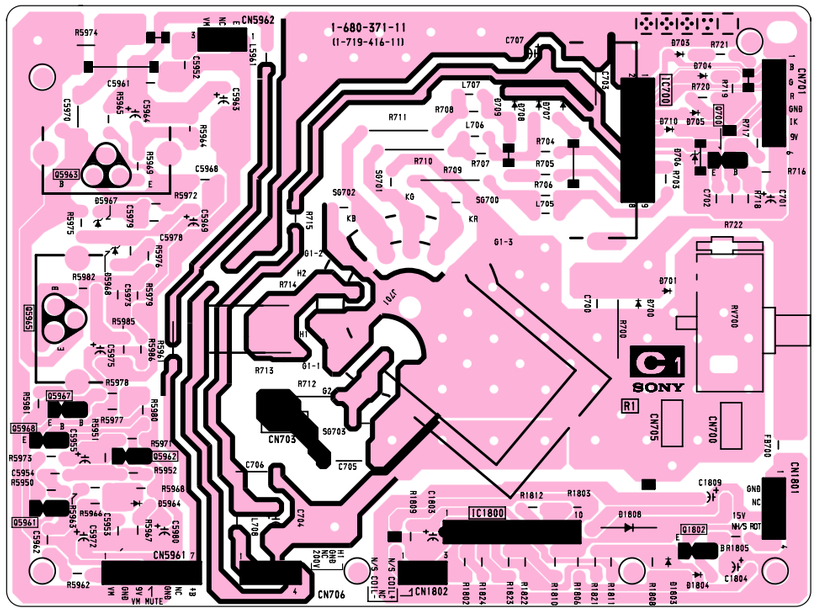
D001	B-8
D002	B-9
D003	C-9
D004	D-8
D005	B-8
D006	A-3
D007	B-8
D008	B-8
D009	B-8
D100	B-4
D203	C-11
D300	A-9
D301	B-9
D303	B-5
D304	B-5
D305	B-5
D306	C-5
D307	C-5
D308	B-5
D309	D-5
D312	C-5
D313	A-8
D314	A-9
D315	B-7
D317	B-9
D319	B-6
D320	C-5
D321	B-6
D322	B-6
D401	C-2
D402	D-2
D403	C-2
D404	C-2
D405	B-1
D406	B-1
D407	C-2
D408	B-1
D409	A-1
D504	D-5
D505	H-6
D506	F-6
D507	F-6
D508	I-6
D509	F-6
D510	F-5
D511	F-5
D512	G-5
D513	I-5
D517	F-2
D518	F-2
D519	F-2
D520	E-5
D521	I-4
D522	J-4
D523	H-4
D525	F-5
D526	F-6
D527	F-3
D528	F-3
D529	F-5
D531	E-6
D533	D-2
D534	E-6
D600	F-13
D601	I-8
D602	G-13
D603	F-11
D604	J-7
D605	G-10
D606	E-11
D607	F-10
D608	F-11
D609	H-8
D610	J-8
D611	I-7
D612	F-8
D613	I-7
D615	E-7
D616	E-9
D617	F-8
D618	F-9
D620	D-8
D621	F-9
D622	F-8
D623	F-12
D624	E-12
D625	E-12
D627	F-8
D628	G-5
D629	F-9
D630	E-10
D631	G-12
D632	F-12
D633	E-12
D634	F-11
D635	F-12
D636	D-12
D637	F-11
D638	E-11
D651	E-7
D901	C-13
D902	C-13
D903	C-13
D904	D-13
D905	F-13
D906	H-13

PRINTING WIRING BOARD

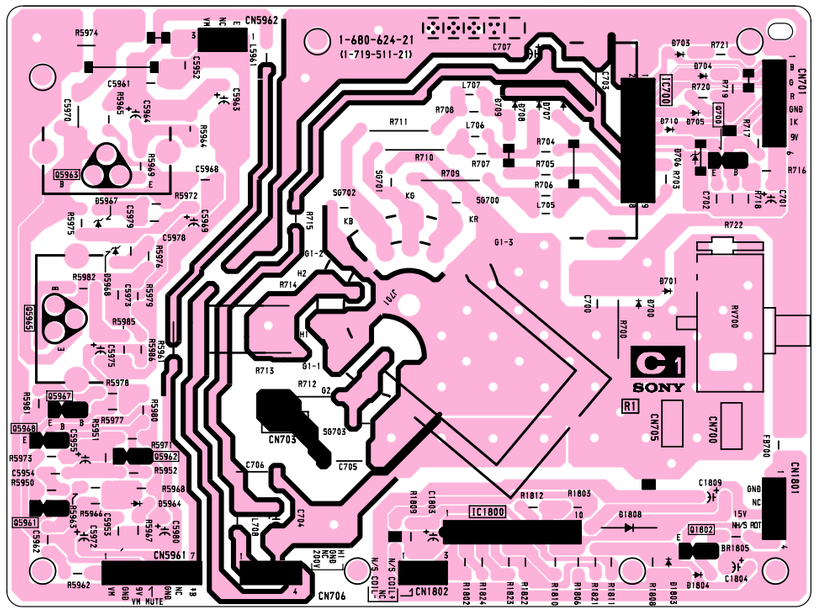
C1 [VIDEO AMP, NS ROTATION, VM]

F [CISPR]

– C1 Board – (KV-XA21P80/XA51M61)

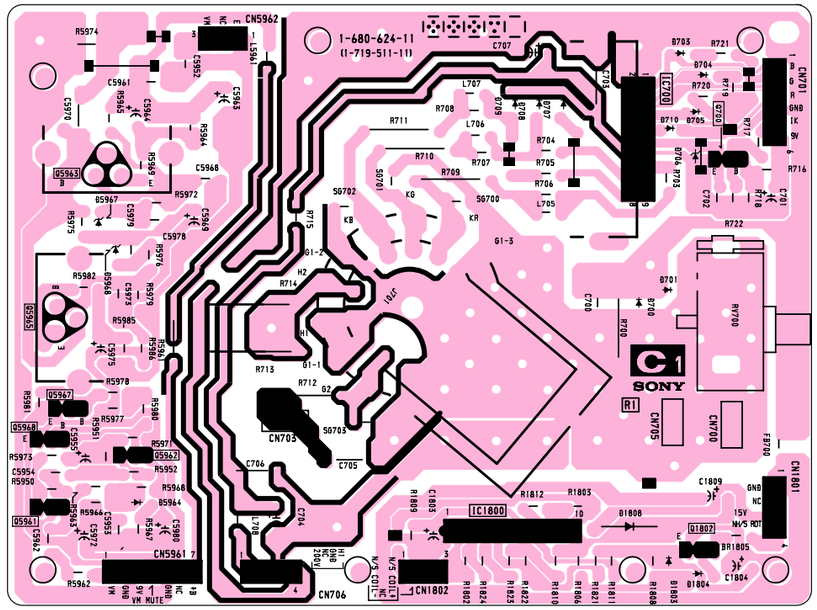


– C1 Board – (KV-XA21M83(India))

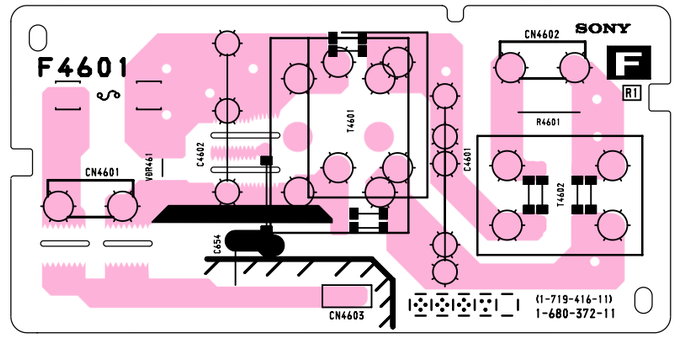


KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

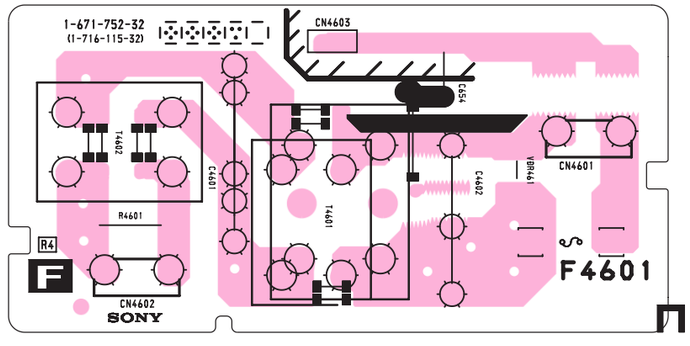
– C1 Board – (KV-XA21M83(Vietnam)/XA21N93)



– F Board – (XA21P80/XA51M61)



– F Board – (except XA21P80/XA51M61)

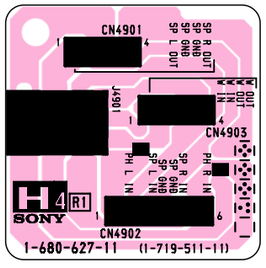


KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

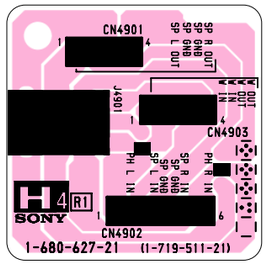
PRINTING WIRING BOARD

H4 [HEADPHONE PANEL]

– H4 Board – (KV-XA21M83(Vietnam)/XA21N93)

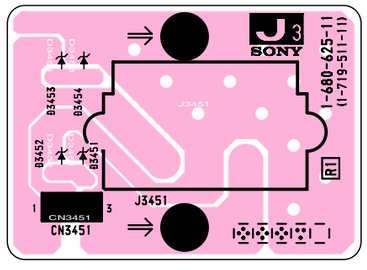


– H4 Board – (KV-XA21M83(India)/XA21M93)

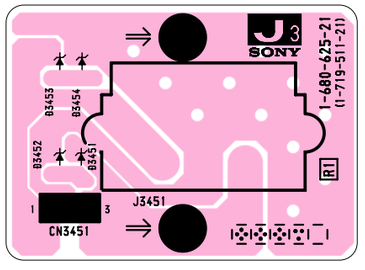


J3 [3D TERMINAL]

– J3 Board – (KV-XA21M83(Vietnam)/XA21N93)

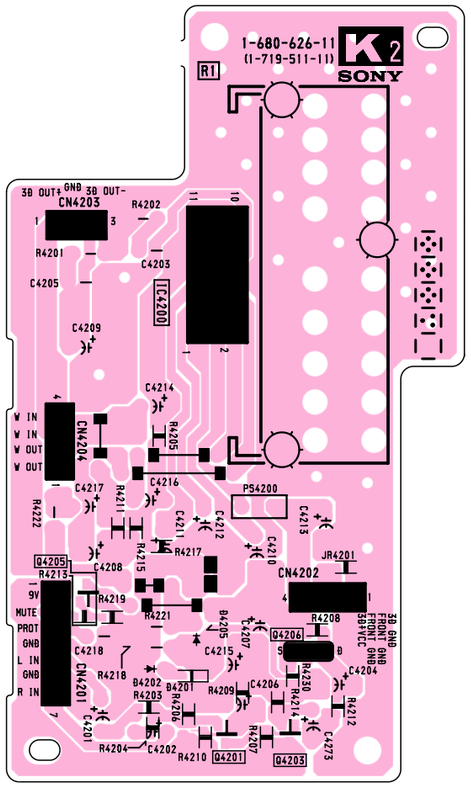


– J3 Board – (KV-XA21M83(India)/XA21M93)

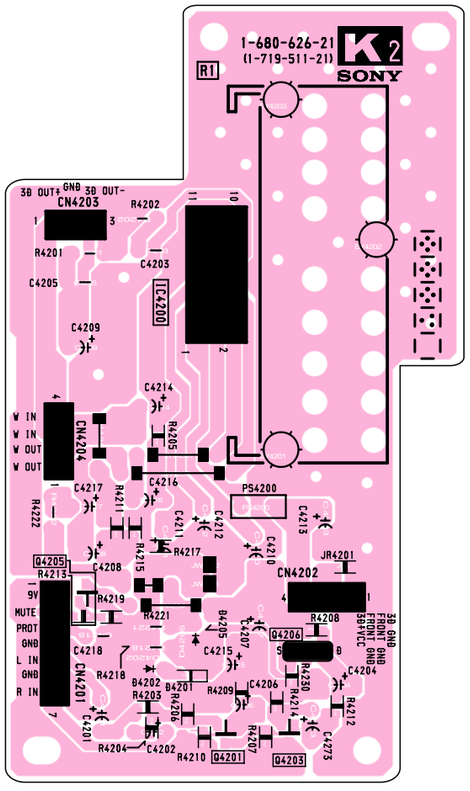


K2 [3D WOOFER AMPLIFIER]

– K2 Board – (KV-XA21M83(Vietnam)/XA21N93)

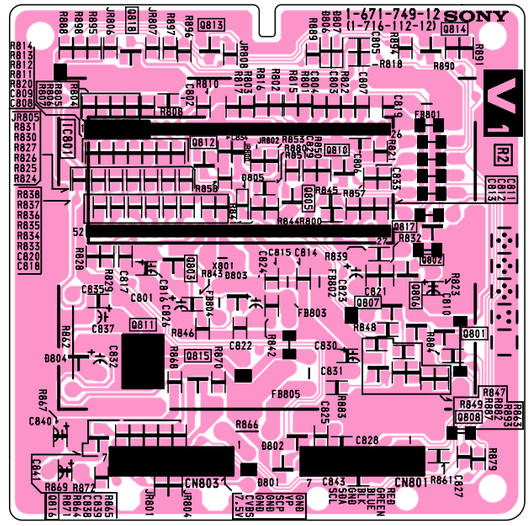


– K2 Board – (KV-XA21M83(India)/XA21M93)



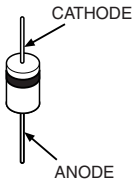
V1 [TELETEXT]

– V1 Board – (KV-XA51M61 only)

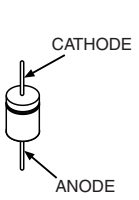


5-7 SEMICONDUCTORS

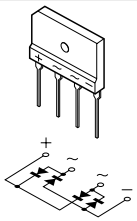
DIODE



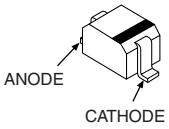
AU-01Z-V1 EL1Z ERA22-08 ERC04-06SE GP08D HSS83TD RD33EB3T	RGP02-17EL-6433 RS3FS RU4AM-T4 31DQ06-FC5



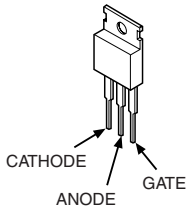
D1NS4
RD6.8ES-B1
RD6.8SB-T1
RD20ES-B2
RD30ES-B2
RD39ES-B2
1SS119-25
11EQS04



D3SB60

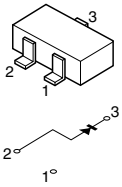


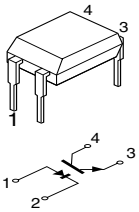
DTZ10B
DTZ-TT11-15B
MA111-(K8).S0
RD5.1SB-T2
RD9.1S-B
1SS355TE-17



5P6M

LED TRANSISTOR

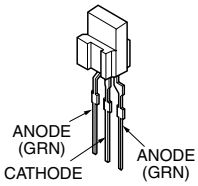




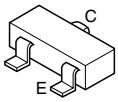
DA204K
DAP202K

ON3171-R

RN4Z



SPB-26MVWF



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UN2213
UN2216
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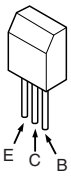
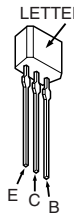
2SC1623-L5L6
2SC2712-YG
2SD2114K



2SD774-34

IC



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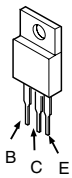
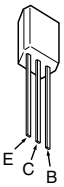
2SA1175-HFE
2SC2785-HFE



2SA1606-E
2SC4159-E
2SC4793
2SA3576



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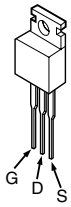
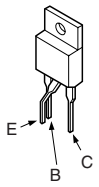


IRF614



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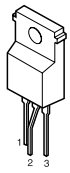
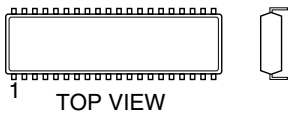


SE-135N

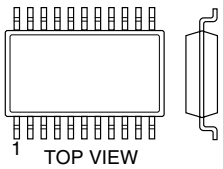
DIP



Dual In-line Package
Pin 6～98

CXP86449-630S (64PIN)
CXP86449-631S (64PIN)
CXP8644-633S (64PIN)
M24C08-BN604 (8PIN)
TDA7442D013TR
CXA2159S
SAA5261

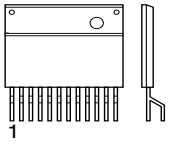
SOP



Single In -line Package
Pin 8～98

MM1319AFBE (7PIN)
NJM2903M (8PIN)

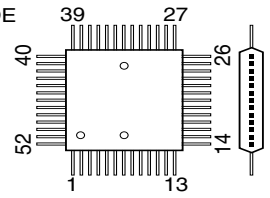
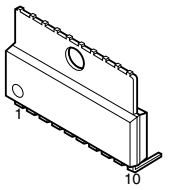
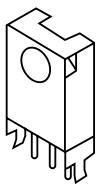
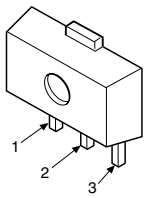
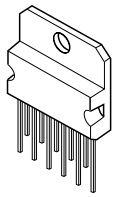
MARKING SIDE VIEW



Zig-zag In -line Package
Pin 6～99

STR-F6654

IC

MARKING SIDE VIEW 				
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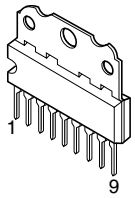
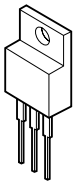
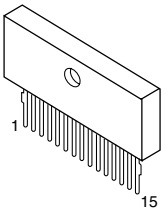
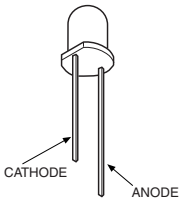
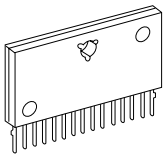
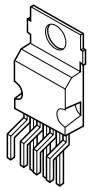
					
TDA6107Q/N2	TA7805S	TA8223K	NJM78M09FA	TA8248K	TDA8172

KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

SECTION 6
EXPLODED VIEWS

NOTE:

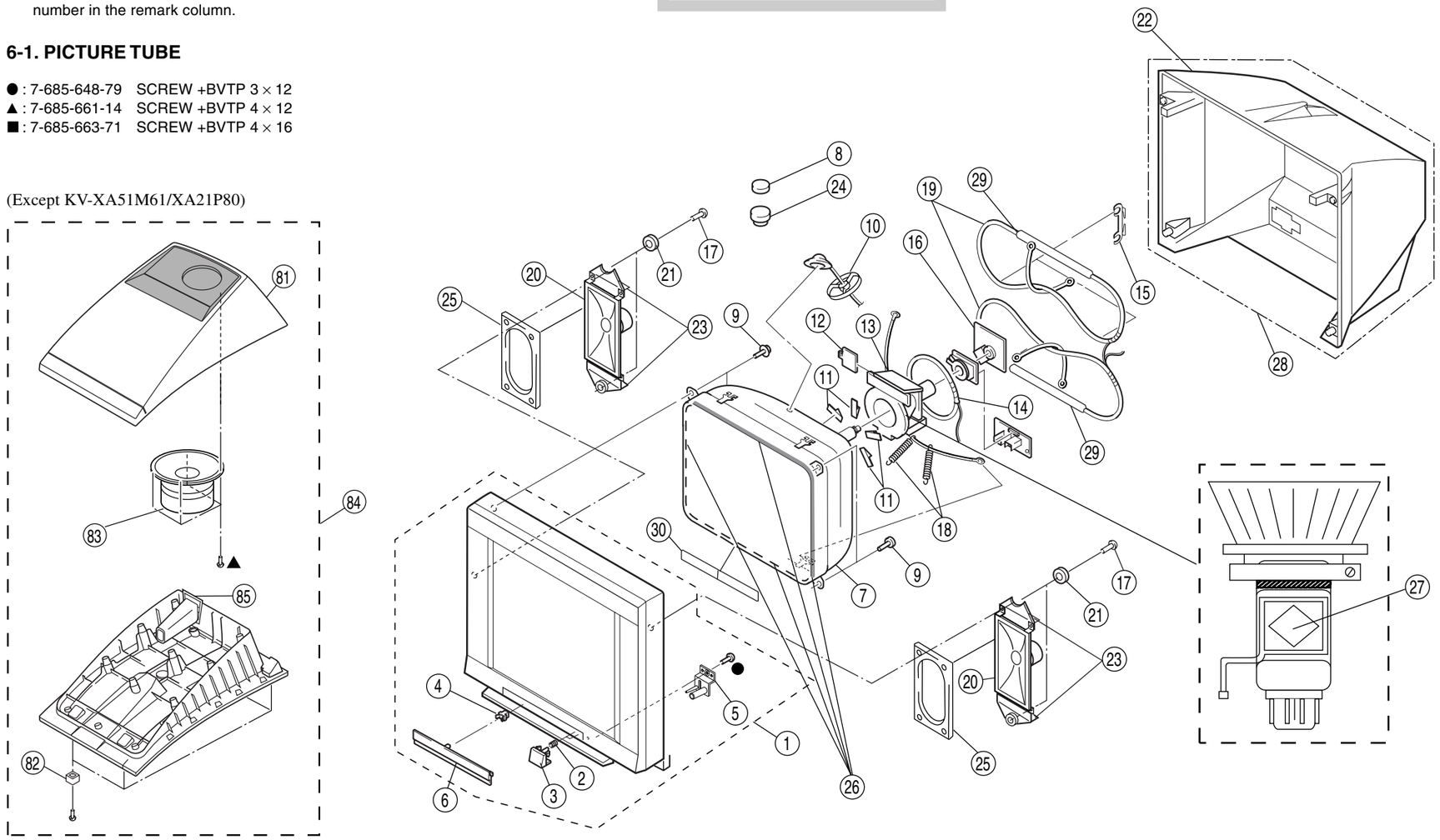
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

6-1. PICTURE TUBE

● : 7-685-648-79 SCREW +BVTP 3 × 12
▲ : 7-685-661-14 SCREW +BVTP 4 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16

(Except KV-XA51M61/XA21P80)



REF. NO.	PART NO.	DESCRIPTION	REMARK
81	4-080-405-01	3D BOX,TOP	
82	4-068-528-11	FOOT (KV-XA21M83(India)/XA21M93)	
	4-068-528-01	FOOT (KV-XA21M83(Vietnam)/XA21N93)	
83	1-505-937-31	SPEAKER (10 cm)	
84	A-1501-889-A	3D BOX ASSY (KV-XA21M83(Vietnam))	
	A-1501-888-A	3D BOX ASSY (KV-XA21M80(India)/XA21M93)	
	A-1501-885-A	3D BOX ASSY (KV-XA21N93)	
85	4-080-406-01	DUCT SPEAKER	

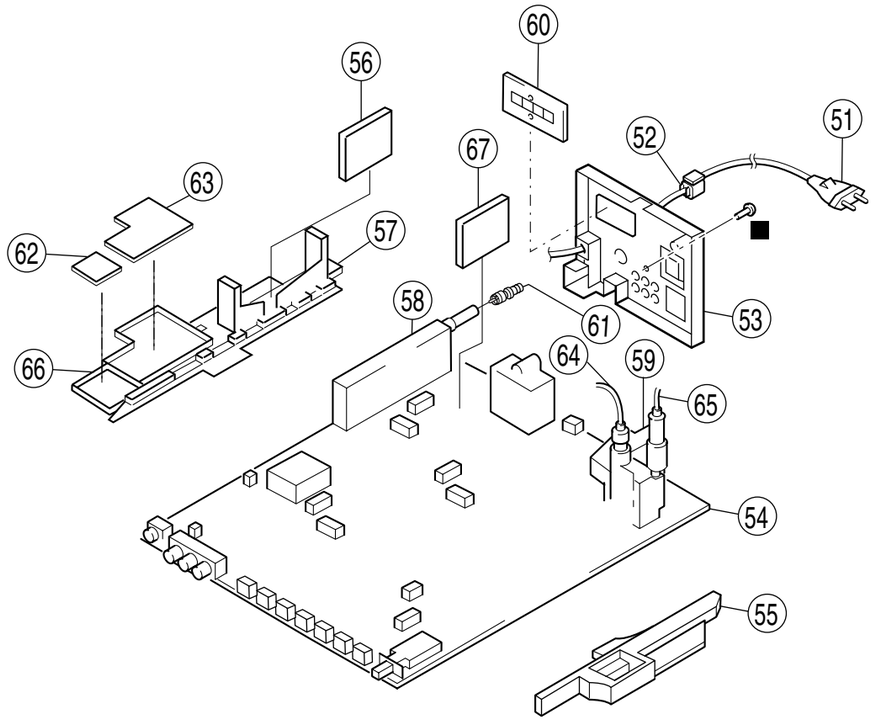
REF. NO.	PART NO.	DESCRIPTION	REMARK
1	X-4038-574-2	BEZNET ASSY (KV-XA21M83 (Vietnam)	2-6
	X-4038-507-2	BEZNET ASSY (KV-XA51M61)	2-6
	X-4039-089-1	BEZNET ASSY (KV-XA21N93)	2-6
	X-4039-131-1	BEZNET ASSY (KV-XA21M93)	2-6
	X-4038-988-1	BEZNET ASSY (KV-XA21M83 (India))	2-6
	X-4039-132-1	BEZNET ASSY (KV-XA21P80)	2-6
2	4-036-405-11	SPRING, COMPRESSION (KV-XA21M83(Vietnam)/M61/N93)	
	4-036-405-41	SPRING, COMPRESSION (KV-XA21M83(India)/M93/P80)	
3	4-080-400-01	BUTTON, POWER	
4	4-047-464-01	CATCHER, PUSH	
5	* 4-080-401-01	GUIDE, LIGHT	

REF. NO.	PART NO.	DESCRIPTION	REMARK
6	4-080-399-92	DOOR, CONTROL (KV-XA21M83(Vietnam))	
	4-083-910-11	DOOR, CONTROL (KV-XA21M83(India))	
	4-083-910-21	DOOR, CONTROL (KV-XA21M93)	
	4-080-399-32	DOOR, CONTROL (KV-XA51M61)	
	4-083-614-11	DOOR, CONTROL (KV-XA21N93)	
	4-083-910-31	DOOR, CONTROL (KV-XA21P80)	
7	⚠ 8-738-809-05	PICTURE TUBE (A51LPT70X)	
	⚠ 8-738-812-05	PICTURE TUBE (A51LPT70X) (KV-XA51M61)	
8	1-452-032-00	MAGNET, DISC	
9	4-365-808-01	SCREW, (5)TAPPING	
	4-365-808-51	SCREW, (5)TAPPING (KV-XA51M61)	
10	* 3-704-372-41	HOLDER, HV CABLE (KV-XA21M83 (India)/M93/P80)	
	* 3-704-372-11	HOLDER, HV CABLE (KV-XA21M61/N93)	
	* 3-704-372-81	HOLDER, HV CABLE (KV-XA21M83(Vietnam))	
11	4-046-600-11	SPACER, DY	
12	4-057-714-01	PIECE, TLH CONVERGENCE	
13	⚠ 8-451-505-11	DEFLECTION YOKE (Y21RSA-S)	
14	1-452-728-81	COIL, NA ROTATION (RT-154) (KV-XA21M83 (India)/P80)	
	1-452-728-61	COIL, NA ROTATION (RT-154) (KV-XA21M83 (Vietnam))	
	1-452-728-41	COIL, NA ROTATION (RT-154) (KV-XA21M83(India)/M61)	
15	4-064-883-03	HOLDER, DGC	
16	* A-1332-178-A	C1 BOARD, MOUNTED (KV-XA21M83(India)/M93)	
	* A-1332-180-A	C1 BOARD, MOUNTED (KV-XA21M83(Vietnam))	
	* A-1332-176-A	C1 BOARD, MOUNTED (KV-XA51M61)	
	* A-1332-194-A	C1 BOARD, MOUNTED (KV-XA21N93)	
	* A-1332-195-A	C1 BOARD, MOUNTED (KV-XA21P80)	
17	4-302-404-03	SCREW (WASHED HEAD) (+P4 X 16)	
18	4-369-318-61	SPRING, TENSION (KV-XA21M83/M93)	
	4-078-765-01	SPRING EXTENSION (KV-XA51M61/N93/P80)	
19	⚠ 1-424-825-11	COIL, DEGAUSSING (KV-XA21M83(India))	
	⚠ 1-419-479-61	COIL, DEGAUSSING (KV-XA21M83(Vietnam))	
	⚠ 1-419-479-11	COIL, DEGAUSSING (KV-XA21M93)	
	⚠ 1-416-946-61	COIL, DEGAUSS (KV-XA51M61)	
	⚠ 1-416-946-11	COIL, DEGAUSSING (KV-XA21N93/P80)	
20	1-529-125-11	SPEAKER (13 X 7 cm) (KV-XA21P80/M61/N93)	
	1-529-125-11	SPEAKER (15 x 6.5cm) (KV-XA21M83(India)/M93)	
	1-529-902-11	SPEAKER (15 x 6.5cm) (KV-XA21M83(Vietnam))	
21	4-374-745-21	CUSHION A (KV-XA21M83(Vietnam)/M61/N93)	
22	4-080-398-01	COVER REAR (KV-XA21M83(India)/M93/M61)	
	4-082-481-01	COVER REAR (KV-XA21M83(Vietnam)/N93/P80)	
23	* 4-046-981-11	BRACKET, SPEAKER (KV-XA21M83(India)/M93/P80)	
	* 4-046-981-01	BRACKET, SPEAKER (KV-XA21M83(Vietnam)/M61/N93)	
24	4-051-736-42	PIECE A(90) CONV, CORRECT	
25	4-069-797-01	CUSHION SPEAKER (S) (KV-XA21M61/N90)	
	4-069-797-31	CUSHION SPEAKER (S) (KV-XA21M83/P80/M93)	
26	4-069-652-51	CUSHION (HS BAND) (KV-XA21M83(India)/M93/P80)	
	4-069-652-02	CUSHION (HS BAND) (KV-XA21M83(Vietnam)/N93)	
	4-069-652-41	CUSHION (HS BAND) (KV-XA51M61)	
27	1-416-864-12	COIL VM	
28	* X-4038-831-2	REAR COVER ASSY	
29	* 4-069-653-51	CUSHION, DGC (KV-XA21M83(India)/M93/P80)	
	* 4-069-653-41	CUSHION, DGC (KV-XA51M61)	
30	4-069-651-03	BLOTTING SHEET (KV-XA21M83(Vietnam))	

KV-XA21M83/XA21M93/XA51M61/XA21P80
RM-952
KV-XA21N93
RM-915

6-2. CHASSIS

■ : 7-685-663-71 SCREW +BVTP 4 × 16



REF. NO.		PART NO.	DESCRIPTION	REMARK
51	⚠	1-782-452-11	CORD, POWER (WITH CONNECTOR) (KV-XA21M83(India))	
	⚠	1-757-624-11	CORD, POWER (WITH CONNECTOR) (KV-XA21M93)	
	⚠	1-574-062-11	CORD, POWER (WITH CONNECTOR) (KV-XA21M83(Vietnam)/M61/P80)	
	⚠	1-575-023-11	C5-ORD, POWER (WITH CONNECTOR) - (KV-XA21N93)	
52	⚠	4-022-115-21	HOLDER, AC CORD (KV-XA21M83(India)/M93/P80)	
	⚠	4-022-115-00	HOLDER, AC CORD (KV-XA21M83(Vietnam)/N93/M61)	
53	*	4-070-140-01	BRACKET TERMINAL (KV-XA21M83(India)/M93)	
	*	4-076-167-11	BRACKET TERMINAL (KV-XA21M83(Vietnam))	
	*	4-067-167-41	BRACKET TERMINAL (KV-XA21N93)	
	*	4-067-167-02	BRACKET TERMINAL (KV-XA51M61)	
	*	4-070-140-11	BRACKET TERMINAL (KV-XA21P80)	
54	*	A-1299-494-A	A BOARD, COMPLETE (KV-XA21M83(India))	
	*	A-1299-497-A	A BOARD, COMPLETE (KV-XA21M83(Vietnam))	
	*	A-1299-492-A	A BOARD, COMPLETE (KV-XA21M93)	
	*	A-1299-527-A	A BOARD, COMPLETE (KV-XA21N93)	
	*	A-1299-491-A	A BOARD, COMPLETE (KV-XA51M61)	
	*	A-1299-528-A	A BOARD, COMPLETE (KV-XA21P80)	
55	*	4-070-138-02	PWB(R) GUIDE (KV-XA21M83(India)/M93/P80)	
	*	4-067-876-11	PWB(R) GUIDE (KV-XA21M83(Vietnam)/N93/M61)	
56	*	A-1241-485-A	F BOARD, MOUNTED (KV-XA21M83(India)/M93)	
	*	A-1241-487-A	F BOARD, MOUNTED (KV-XA21M83(Vietnam))	
	*	A-1241-497-A	F BOARD, MOUNTED (KV-XA21N93)	
	*	A-1241-483-A	F BOARD, MOUNTED (KV-XA51M61)	
	*	A-1241-498-A	F BOARD, MOUNTED (KV-XA21P80)	
57	*	4-070-139-02	PWB(L) GUIDE (KV-XA21M83(India)/M93/P80)	
	*	4-067-875-11	PWB(L) GUIDE (KV-XA21M83(Vietnam)/N93/M61)	
58		8-598-499-20	TUNER, FSS BTF-LG433 (KV-XA21M83(India))	
		8-598-449-10	TUNER, FSS BTF-LG433 (KV-XA21M83(Vietnam))	
		8-598-451-20	TUNER, FSS BTF-WG441 (KV-XA21M93/M61)	
		8-598-447-30	TUNER, FSS BTF-WG411 (KV-XA21N93)	
		8-598-447-10	TUNER, FSS BTF-LG411 (KV-XA21P80)	
59	⚠	1-453-352-11	TRANSFORMER ASSY FLYBACK (KV-XA21M83(India)/M93)	
	⚠	1-453-293-11	TRANSFORMER ASSY FLYBACK (NX1748//M3A4) (KV-XA21M83(Vietnam)/N93/M61/P80)	
60		A-1388-317-A	J3 BOARD MOUNTED (KV-XA21M83(India)/M93)	
		A-1388-318-A	J3 BOARD MOUNTED (KV-XA21M83(Vietnam))	
		A-1388-325-A	J3 BOARD MOUNTED (KV-XA21N93)	
61		1-573-657-21	PLUG, F-PIN (KV-XA21N93 only)	
62	*	A-1372-973-A	H4 BOARD MOUNTED (KV-XA21M83(India)/M93)	
	*	A-1372-975-A	H4 BOARD MOUNTED (KV-XA21M83(Vietnam))	
	*	A-1377-003-A	H4 BOARD MOUNTED (KV-XA21N93)	
63	*	A-1380-651-A	K2 BOARD MOUNTED (KV-XA21M83(India)/M93)	
	*	A-1380-652-A	K2 BOARD MOUNTED (KV-XA21M83(Vietnam))	
	*	A-1380-655-A	K2 BOARD MOUNTED (KV-XA21N93)	
64		1-540-005-31	CAP ASSY, HIGH VOLTAGE (KV-XA21N93/M61/P80)	
65		1-900-212-58	LEAD ASSY, FOCUS (KV-XA21N93/M61/P80)	
66		4-080-390-01	BRACKET, HK (KV-XA21M83(India)/M93)	
67		A-1347-174-A	V1 BOARD, MOUNTED (KV-XA51M61)	

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SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1299-497-A	A BOARD COMPLETE (KV-XA21M83(VT))			
	* A-1299-494-A	A BOARD COMPLETE (KV-XA21M83(ID))			
	* A-1299-492-A	A BOARD COMPLETE (KV-XA21M93)			
	* A-1299-527-A	A BOARD COMPLETE (KV-XA21N93)			
	* A-1299-528-A	A BOARD COMPLETE (KV-XA21P80)			
	* A-1299-491-A	A BOARD COMPLETE (KV-XA51M61)			
		**********			
	* 4-040-983-41	TERMINAL BOARD (D)			
	* 4-055-304-01	HOLDER, LED			
	* 4-067-182-03	HOLDER, FBT			
	4-352-844-01	PIN, LEAD, COATING			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	4-382-854-21	SCREW (M3X14), P, SW (+)			
		<CAPACITOR>			
C004	1-163-001-11	CERAMIC CHIP	220PF	10.00%	50V
C005	1-163-001-11	CERAMIC CHIP	220PF	10.00%	50V
C006	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C007	1-104-660-91	ELECT	47UF	20.00%	16V
C008	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C010	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C012	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C013	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C014	1-104-664-11	ELECT	47UF	20.00%	25V
C015	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C016	1-163-113-00	CERAMIC CHIP	68PF	5.00%	50V
C017	1-163-113-00	CERAMIC CHIP	68PF	5.00%	50V
C019	1-104-664-11	ELECT	47UF	20.00%	25V
C022	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C023	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C024	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C026	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C027	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C028	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C030	1-126-965-91	ELECT	22UF	20.00%	50V
C031	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C032	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C041	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C042	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C043	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C044	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C047	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C048	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C050	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C051	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C053	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C054	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C055	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C103	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C104	1-104-665-11	ELECT	100UF	20.00%	10V

REF NO.	PART NO.	DESCRIPTION			REMARK
C107	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C108	1-104-660-91	ELECT	47UF	20.00%	16V
C109	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C110	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C111	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C112	1-104-660-91	ELECT	47UF	20.00%	16V
C113	1-104-664-11	ELECT	47UF	20.00%	25V
C114	1-126-967-11	ELECT	47UF	20.00%	50V
C118	1-110-501-11	CERAMIC CHIP	0.33UF	10.00%	16V
C202	1-164-182-11	CERAMIC CHIP (EXCEPT XA21P80/XA51M61)	0.0033UF	10.00%	50V
C202	1-163-023-00	CERAMIC CHIP (XA21P80/XA51M61 ONLY)	0.015UF	10.00%	50V
C203	1-164-182-11	CERAMIC CHIP (EXCEPT XA21P80/XA51M61)	0.0033UF	10.00%	50V
C203	1-163-023-00	CERAMIC CHIP (XA21P80/XA51M61 ONLY)	0.015UF	10.00%	50V
C204	1-136-167-00	FILM (EXCEPT XA21P80/XA51M61)	0.15UF	5.00%	50V
C204	1-130-489-00	MYLAR (XA21P80/XA51M61 ONLY)	0.033UF	5.00%	50V
C205	1-164-182-11	CERAMIC CHIP (EXCEPT XA21P80/XA51M61)	0.0033UF	10.00%	50V
C205	1-163-019-00	CERAMIC CHIP (XA21P80/XA51M61 ONLY)	0.0068UF	10.00%	50V
C206	1-164-182-11	CERAMIC CHIP (EXCEPT XA21P80/XA51M61)	0.0033UF	10.00%	50V
C206	1-163-019-00	CERAMIC CHIP (XA21P80/XA51M61 ONLY)	0.0068UF	10.00%	50V
C207	1-136-167-00	FILM (EXCEPT XA21P80/XA51M61)	0.15UF	5.00%	50V
C207	1-130-489-00	MYLAR (XA21P80/XA51M61 ONLY)	0.033UF	5.00%	50V
C208	1-125-805-91	ELECT (EXCEPT XA21P80/XA51M61)	4.7UF	20.00%	50V
C208	1-126-964-11	ELECT (XA21P80/XA51M61 ONLY)	10UF	20.00%	50V
C209	1-125-805-91	ELECT (EXCEPT XA21P80/XA51M61)	4.7UF	20.00%	50V
C209	1-126-964-11	ELECT (XA21P80/XA51M61 ONLY)	10UF	20.00%	50V
C210	1-126-933-11	ELECT	100UF	20.00%	16V
C211	1-126-941-11	ELECT	470UF	20.00%	25V
C212	1-126-933-11	ELECT	100UF	20.00%	16V
C213	1-126-933-11	ELECT	100UF	20.00%	16V
C214	1-126-942-61	ELECT	1000UF	20.00%	25V
C215	1-126-942-61	ELECT	1000UF	20.00%	25V
C216	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C217	1-125-797-91	ELECT	10UF	20.00%	50V
C218	1-136-167-00	FILM	0.15UF	5.00%	50V
C219	1-136-167-00	FILM	0.15UF	5.00%	50V
C220	1-126-942-61	ELECT	1000UF	20.00%	25V
C221	1-125-797-91	ELECT	10UF	20.00%	50V
C223	1-126-965-91	ELECT	22UF	20.00%	50V

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REF NO.	PART NO.	DESCRIPTION			REMARK
C224	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C225	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C226	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C227	1-164-346-11	CERAMIC CHIP	1UF		16V
C228	1-216-077-91	RES-CHIP	15K	5%	1/10W
C229	1-216-077-91	RES-CHIP	15K	5%	1/10W
C230	1-164-346-11	CERAMIC CHIP	1UF		16V
C256	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C259	1-126-933-11	ELECT	100UF	20.00%	16V
C264	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C265	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C271	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C272	1-125-800-91	ELECT (XA21M83(ID)/XA21M93 ONLY)	2.2UF	20.00%	63V
C272	1-126-961-11	ELECT (EXCEPT XA21M83(ID)/XA21M93)	2.2UF	20.00%	50V
C273	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C274	1-125-800-91	ELECT (XA21M83(ID)/XA21M93 ONLY)	2.2UF	20.00%	63V
C274	1-126-961-11	ELECT (EXCEPT XA21M83(ID)/XA21M93)	2.2UF	20.00%	50V
C275	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C276	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C277	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C278	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C279	1-163-010-11	CERAMIC CHIP	0.0012UF	10.00%	50V
C280	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C281	1-163-018-00	CERAMIC CHIP	0.0056UF	10.00%	50V
C282	1-163-018-00	CERAMIC CHIP	0.0056UF	10.00%	50V
C283	1-126-965-91	ELECT	22UF	20.00%	50V
C301	1-126-935-11	ELECT	470UF	20.00%	16V
C302	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C303	1-125-797-91	ELECT	10UF	20.00%	50V
C304	1-126-967-11	ELECT	47UF	20.00%	50V
C305	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C306	1-163-233-91	CERAMIC CHIP	18PF	5.00%	50V
C307	1-163-233-91	CERAMIC CHIP	18PF	5.00%	50V
C308	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C309	1-137-378-11	MYLAR	0.22UF	5.00%	50V
C310	1-125-805-91	ELECT	4.7UF	20.00%	50V
C311	1-125-797-91	ELECT	10UF	20.00%	50V
C312	1-164-346-11	CERAMIC CHIP	1UF		16V
C313	1-164-346-11	CERAMIC CHIP	1UF		16V
C315	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C316	1-104-664-11	ELECT	47UF	20.00%	25V
C317	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C318	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C319	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C320	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C322	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C324	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C325	1-126-960-11	ELECT	1UF	20.00%	50V
C327	1-126-965-91	ELECT	22UF	20.00%	50V
C328	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C329	1-125-805-91	ELECT	4.7UF	20.00%	50V
C330	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C332	1-125-805-91	ELECT	4.7UF	20.00%	50V
C335	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C336	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C337	1-125-800-91	ELECT (XA21M83(ID)/XA21M93 ONLY)	2.2UF	20.00%	63V
C337	1-126-961-11	ELECT (EXCEPT XA21M83(ID)/XA21M93)	2.2UF	20.00%	50V

REF NO.	PART NO.	DESCRIPTION			REMARK
C338	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C341	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C342	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C347	1-126-933-11	ELECT	100UF	20.00%	16V
C348	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C349	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C350	1-216-295-91	SHORT	0		
C351	1-125-797-91	ELECT	10UF	20.00%	50V
C352	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C353	1-126-960-11	ELECT	1UF	20.00%	50V
C356	1-126-962-11	ELECT (XA21M83(ID)/XA21M93 ONLY)	3.3UF	20.00%	63V
C356	1-126-962-11	ELECT (EXCEPT XA21M83(ID)/XA21M93)	3.3UF	20.00%	50V
C357	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C401	1-164-346-11	CERAMIC CHIP	1UF		16V
C402	1-164-346-11	CERAMIC CHIP	1UF		16V
C403	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C404	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C405	1-126-935-11	ELECT	470UF	20.00%	16V
C406	1-164-346-11	CERAMIC CHIP	1UF		16V
C407	1-164-346-11	CERAMIC CHIP	1UF		16V
C408	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C409	1-125-805-91	ELECT	4.7UF	20.00%	50V
C415	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C502	1-163-145-00	CERAMIC CHIP	0.0015UF	5.00%	50V
C506	1-107-638-11	ELECT	33UF	20.00%	160V
C507	1-161-830-00	CERAMIC	0.0047UF		500V
C510	1-102-112-00	CERAMIC	330PF	10.00%	50V
C512	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C513	1-163-263-11	CERAMIC CHIP	330PF	5.00%	50V
C514	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C517	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C518	1-104-665-11	ELECT	100UF	20.00%	10V
C519	1-102-212-00	CERAMIC	820PF	10.00%	500V
C521	1-126-934-11	ELECT	220UF	20.00%	16V
C522	1-126-933-11	ELECT	100UF	20.00%	16V
C523	1-102-002-00	CERAMIC	680PF	10.00%	500V
C524	1-126-967-11	ELECT	47UF	20.00%	50V
C526	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C527	1-102-820-00	CERAMIC	330PF	5.00%	50V
C528	1-162-134-11	CERAMIC	470PF	10.00%	2KV
C530	1-137-372-11	MYLAR	0.022UF	5.00%	50V
C531	1-125-800-91	ELECT (XA21M83(ID)/XA21M93 ONLY)	2.2UF	20.00%	63V
C531	1-126-961-11	ELECT (EXCEPT XA21M83(ID)/XA21M93)	2.2UF	20.00%	50V
C532	1-126-941-11	ELECT	470UF	20.00%	25V
C533	1-126-941-11	ELECT	470UF	20.00%	25V
C534	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C536	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C537	1-126-969-11	ELECT	220UF	20.00%	50V
C538	1-117-657-21	FILM	8500PF	3.00%	1.2KV
C539	1-129-746-91	FILM	0.039UF	5.00%	400V
C540	1-136-171-00	FILM	0.33UF	5.00%	50V
C546	1-165-319-11	CERAMIC CHIP	0.1UF		50V
C549	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C550	1-106-220-00	MYLAR	0.1UF	10.00%	100V
C551	1-126-960-11	ELECT	1UF	20.00%	50V
C552	1-162-116-00	CERAMIC	680PF	10.00%	2KV
C553	1-162-116-00	CERAMIC	680PF	10.00%	2KV
C554	1-137-417-11	MYLAR	0.0047UF	10.00%	200V

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.		PART NO.	DESCRIPTION		REMARK	
C556		1-126-941-11	ELECT	470UF	20.00%	25V
C557		1-126-941-11	ELECT	470UF	20.00%	25V
C558		1-123-024-21	ELECT	33UF		160V
C560		1-102-228-00	CERAMIC	470PF	10.00%	500V
C561		1-129-708-91	FILM	0.0033UF	5.00%	630V
C562		1-102-228-00	CERAMIC	470PF	10.00%	500V
C564		1-163-038-91	CERAMIC CHIP	0.1UF		25V
C565		1-107-655-11	ELECT	47UF	20.00%	250V
C566		1-102-244-00	CERAMIC	220PF	10.00%	500V
C567		1-115-521-11	FILM	0.82UF	5.00%	250V
C568		1-102-228-00	CERAMIC	470PF	10.00%	500V
C570		1-115-520-11	FILM	0.68UF	5.00%	250V
C573		1-106-375-12	MYLAR	0.022UF	99%	200V
C574		1-107-636-11	ELECT	10UF	20.00%	160V
C576		1-130-495-00	MYLAR	0.1UF	5.00%	50V
C577		1-106-395-00	MYLAR	0.15UF	10.00%	200V
C582		1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C586		1-216-295-91	SHORT	0		
C600	⚠	1-104-705-11	MYLAR	0.1UF	20.00%	250V
C602	⚠	1-104-705-11	MYLAR	0.1UF	20.00%	250V
C604		1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C605	⚠	1-127-942-51	CERAMIC	330PF	10%	250V
C606	⚠	1-127-942-51	CERAMIC	330PF	10%	250V
C607		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C608		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C609		1-126-968-11	ELECT	100UF	20.00%	50V
C610		1-125-797-91	ELECT	10UF	20.00%	50V
C611		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C612		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C613		1-117-752-11	ELECT(BLOCK)	330UF	20.00%	450V
C614		1-125-797-91	ELECT	10UF	20.00%	50V
C616		1-130-202-00	FILM	0.022UF	5.00%	400V
C617		1-107-792-11	CERAMIC	100PF	5.00%	1KV
C618		1-125-893-11	FILM	680PF	3.00%	1.5KV
C619	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C620		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C621		1-102-114-00	CERAMIC	470PF	10.00%	50V
C622		1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C623		1-104-665-11	ELECT	100UF	20.00%	25V
C624		1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C625		1-102-002-00	CERAMIC (EXCEPT XA21P80/XA51M61)	680PF	10.00%	500V
C627		1-102-002-00	CERAMIC	680PF	10.00%	500V
C628		1-126-942-61	ELECT	1000UF	20.00%	25V
C629		1-125-797-91	ELECT	10UF	20.00%	50V
C630		1-123-024-21	ELECT	33UF		160V
C631		1-128-550-11	ELECT (EXCEPT XA21P80/XA51M61)	2200UF	20.00%	50V
C633		1-104-999-11	MYLAR	0.1UF	10.00%	200V
C634		1-126-933-11	ELECT	100UF	20.00%	16V
C635		1-104-665-11	ELECT	100UF	20.00%	10V
C636		1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C639		1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C640		1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C641		1-102-002-00	CERAMIC	680PF	10.00%	500V
C642		1-107-890-11	ELECT	2200UF	20.00%	25V
C643		1-104-665-11	ELECT	100UF	20.00%	10V
C644		1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C645		1-137-605-11	MYLAR	0.01UF	10.00%	250V
C646		1-107-679-91	ELECT	10UF	20.00%	450V
C647		1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C649		1-126-940-11	ELECT	330UF	20.00%	25V

REF NO.		PART NO.	DESCRIPTION		REMARK	
C650		1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C651		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C652		1-126-965-91	ELECT	22UF	20.00%	50V
C653		1-104-664-11	ELECT	47UF	20.00%	25V
C657		1-101-821-00	CERAMIC	0.0022UF		500V
C658		1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C901		1-136-153-00	FILM	0.01UF	5.00%	50V
C902		1-136-153-00	FILM	0.01UF	5.00%	50V
C905		1-125-805-91	ELECT	4.7UF	20.00%	50V
C906		1-164-346-11	CERAMIC CHIP	1UF		16V
C907		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C908		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C909		1-164-346-11	CERAMIC CHIP	1UF		16V
C910		1-126-967-11	ELECT	47UF	20.00%	50V
C911		1-126-967-11	ELECT	47UF	20.00%	50V
C912		1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C913		1-104-665-11	ELECT	100UF	20.00%	10V
C914		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V

<CONNECTOR>

CN104		1-695-915-11	TAB (CONTACT)
CN201	*	1-564-510-11	PLUG, CONNECTOR 7P (EXCEPT XA21P80/XA51M61)
CN202	*	1-785-608-11	PIN, CONNECTOR 4P
CN203		1-564-506-11	PLUG, CONNECTOR 3P
CN204		1-564-506-21	PLUG, CONNECTOR 3P
CN301	*	1-774-813-11	CONNECTOR, BOARD TO BOARD 7P (XA51M61 ONLY)
CN305		1-564-509-11	PLUG, CONNECTOR 6P
CN306	*	1-564-510-11	PLUG, CONNECTOR 7P
CN307	*	1-774-813-11	CONNECTOR, BOARD TO BOARD 7P (XA51M61 ONLY)
CN505		1-564-507-11	PLUG, CONNECTOR 4P
CN507		1-564-507-21	PLUG, CONNECTOR 4P (EXCEPT XA21P800
CN601		1-580-843-11	PIN, CONNECTOR (POWER)
CN602	*	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
CN604	*	1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P (EXCEPT XA21N93/XA21P80/XA51M61)
CN604	*	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P (XA21N93/XA21P80/XA51M61)
CN605		1-564-507-11	PLUG, CONNECTOR 4P (EXCEPT XA21P80/XA51M61)
CN609	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P
CN901		1-564-509-11	PLUG, CONNECTOR 6P (EXCEPT XA21P80/XA51M61)
CN901	*	1-564-507-11	PLUG, CONNECTOR 4P (XA21P80/XA51M61)

<DIODE>

D001		8-719-988-61	1SS355TE-17
D005		8-719-988-61	1SS355TE-17
D006		8-719-988-61	1SS355TE-17
D010		8-719-158-35	RD9.1S-B
D011		8-719-158-35	RD9.1S-B
D100		8-719-988-61	1SS355TE-17 (XA21M93/XA51M61)
D203		8-719-914-42	DA204K
D300		1-216-295-91	SHORT 0
D301		8-719-988-61	1SS355TE-17
D306		8-719-988-61	1SS355TE-17
D307		8-719-988-61	1SS355TE-17
D308		8-719-988-61	1SS355TE-17

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REF NO.	PART NO.	DESCRIPTION	REMARK
D309	8-719-159-10	RD5.1SB-T2	
D311	8-719-988-61	1SS355TE-17	
D312	8-719-988-61	1SS355TE-17	
D313	8-719-988-61	1SS355TE-17	
D314	8-719-988-61	1SS355TE-17	
D315	8-719-988-61	1SS355TE-17	
D316	8-719-037-02	RD6.8SB-T1	
D320	8-719-158-35	RD9.1S-B	
D321	8-719-158-35	RD9.1S-B	
D401	8-719-158-35	RD9.1S-B	
D402	8-719-158-35	RD9.1S-B	
D403	8-719-158-35	RD9.1S-B	
D404	8-719-158-35	RD9.1S-B	
D405	8-719-158-35	RD9.1S-B	
D406	8-719-158-35	RD9.1S-B	
D504	8-719-302-43	EL1Z	
D505	8-719-988-61	1SS355TE-17	
D506	8-719-911-19	1SS119-25	
D507	8-719-988-61	1SS355TE-17	
D508	8-719-988-61	1SS355TE-17	
D509	1-216-073-91	RES-CHIP 10K 5% 1/10W	
D510	8-719-988-61	1SS355TE-17	
D511	8-719-988-61	1SS355TE-17	
D512	8-719-988-61	1SS355TE-17	
D513	8-719-908-03	GP08D	
D517	8-719-312-71	RS3FS	
D518	8-719-900-26	ERD29-08J	
D521	8-719-302-43	EL1Z	
D522	8-719-302-43	EL1Z	
D523	8-719-302-43	EL1Z	
D527	8-719-908-03	GP08D	
D528	8-719-908-03	GP08D	
D531	8-719-988-61	1SS355TE-17	
D532	8-719-988-61	1SS355TE-17	
D534	1-216-295-91	SHORT 0	
D602	8-719-911-19	1SS119-25	
D603	8-719-150-92	RD33EB3T	
D604	8-719-028-72	RGP02-17EL-6433	
D605	8-719-510-22	D3SB60	
D606	8-719-108-18	5P-6M	
D607	8-719-404-50	MA111-(K8).SO	
D608	8-719-110-53	RD20ES-B2	
D609	8-719-311-31	RU-1P	
D610	8-719-210-21	11EQS04	
D611	8-719-046-74	AU-01Z-V1	
D613	8-719-046-74	AU-01Z-V1	
D614	8-719-046-74	AU-01Z-V1	
D615	8-719-312-10	RU4AM-T3	
D616	8-719-067-18	RN4Z (EXCEPT XA21P80/XA51M61)	
D618	8-719-067-18	RN4Z	
D620	8-719-110-72	RD30ESB2	
D623	8-719-158-57	RD15SB2	
D624	8-719-404-50	MA111-(K8).SO	
D625	8-719-977-28	DTZ10B	
D627	8-719-073-84	31DQ06-FC5	
D628	8-719-911-19	1SS119-25	
D631	8-719-068-00	ERC04-06SE	
D632	8-719-068-00	ERC04-06SE	
D633	8-719-948-45	ERA22-08	
D634	8-719-404-50	MA111-(K8).SO	
D635	8-719-404-50	MA111-(K8).SO	

REF NO.	PART NO.	DESCRIPTION	REMARK
D636	8-719-510-02	D1NS4	
D637	8-719-109-96	RD6.8ES-B1	
D638	8-719-200-82	11ES2	
D901	8-719-158-35	RD9.1S-B	
D902	8-719-158-35	RD9.1S-B	
D903	8-719-158-35	RD9.1S-B	
D904	8-719-158-35	RD9.1S-B	
D905	8-719-158-35	RD9.1S-B	
D906	8-719-083-18		
		<CONNECTOR>	
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P	
		<FERRITE BEAD>	
FB300	1-412-911-31	FERRITE 0UH	
FB501	1-410-397-21	FERRITE 1.1UH	
FB502	1-410-397-21	FERRITE 1.1UH	
FB600	1-410-397-21	FERRITE 1.1UH	
FB601	1-410-397-21	FERRITE 1.1UH	
FB602	1-410-397-21	FERRITE 1.1UH	
FB603	1-410-397-21	FERRITE 1.1UH	
FB604	1-412-911-31	FERRITE 0UH	
FB605	1-412-911-31	FERRITE 0UH (EXCEPT XA21M83(VT)/XA21P80/XA51M61)	
FB607	1-410-397-21	FERRITE 1.1UH	
FB608	1-412-911-31	FERRITE 0UH	
FB611	1-410-397-21	FERRITE 1.1UH	
FB613	1-410-397-21	FERRITE 1.1UH	
FB615	1-410-397-21	FERRITE 1.1UH	
		<IC>	
IC001	8-752-917-83	CXP86449-631S (EXCEPT XA21N93/XA51M61)	
IC001	8-752-917-82	CXP86449-630S (XA51M61 ONLY)	
IC001	8-752-917-85	CXP86449-633S (XA21N93 ONLY)	
IC002	8-759-371-21	MM1319AFBE	
IC003	8-759-672-78	M24C08-BN6(A)	
IC100	8-759-042-02	S-80743AL-A7-S (XA21M93/XA51M61)	
IC201	8-759-339-60	TA8248K (EXCEPT XA21P80/XA51M61)	
IC201	8-759-336-30	TA8223K (XA21P80/XA51M61)	
IC203	8-759-827-61	TDA7442D013TR	
IC301	8-752-095-72	CXA2159S	
IC302	8-759-672-27	TDA9183T	
IC502	8-759-700-07	NJM2903M	
IC503	8-759-980-58	TDA8172	
IC601	8-749-013-75	STR-F6654	
IC602	8-749-920-61	SE-135N	
IC603	8-759-701-59	NJM78M09FA	
IC604	8-759-231-53	TA7805S	
IC901	8-742-014-21	SBX1981-51(21)	
		<JACK>	
J401	1-779-850-11	JACK BLOCK, PIN 6P	
J902	1-770-329-11	JACK, PIN 3P	

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION	REMARK
		<CHIP CONDUCTOR>	
JR001	1-216-295-91	SHORT 0	
JR002	1-216-295-91	SHORT 0	
JR003	1-216-295-91	SHORT 0	
JR004	1-216-295-91	SHORT 0	
JR006	1-216-295-91	SHORT 0	
JR007	1-216-295-91	SHORT 0	
JR008	1-216-295-91	SHORT 0	(XA51M61 ONLY)
JR009	1-216-295-91	SHORT 0	
JR010	1-216-295-91	SHORT 0	
JR011	1-216-295-91	SHORT 0	
JR012	1-216-295-91	SHORT 0	
JR014	1-216-295-91	SHORT 0	
JR015	1-216-295-91	SHORT 0	
JR016	1-216-295-91	SHORT 0	
JR019	1-216-295-91	SHORT 0	
JR020	1-216-295-91	SHORT 0	
JR022	1-216-295-91	SHORT 0	
JR023	1-216-295-91	SHORT 0	
JR024	1-216-295-91	SHORT 0	
JR025	1-216-295-91	SHORT 0	
JR028	1-216-295-91	SHORT 0	
JR102	1-216-295-91	SHORT 0	(EXCEPT XA21N93 ONLY)
JR107	1-216-295-91	SHORT 0	(XA21M93/XA21N93/XA51M61)
JR108	1-216-295-91	SHORT 0	(EXCEPT XA21N93 ONLY)
JR109	1-216-295-91	SHORT 0	(EXCEPT XA21M93/XA21N93/XA51M61)
JR111	1-216-295-91	SHORT 0	(XA21N93 ONLY)
JR112	1-216-295-91	SHORT 0	
JR202	1-216-295-91	SHORT 0	
JR204	1-216-295-91	SHORT 0	
JR213	1-216-295-91	SHORT 0	
JR214	1-216-295-91	SHORT 0	
JR300	1-216-295-91	SHORT 0	
JR304	1-216-295-91	SHORT 0	
JR308	1-216-295-91	SHORT 0	
JR309	1-216-295-91	SHORT 0	
JR310	1-216-295-91	SHORT 0	
JR311	1-216-295-91	SHORT 0	
JR312	1-216-295-91	SHORT 0	
JR400	1-216-295-91	SHORT 0	
JR401	1-216-295-91	SHORT 0	
JR403	1-216-295-91	SHORT 0	
JR404	1-216-295-91	SHORT 0	
JR405	1-216-295-91	SHORT 0	
JR500	1-216-295-91	SHORT 0	
JR501	1-216-295-91	SHORT 0	
JR503	1-216-295-91	SHORT 0	
JR505	1-216-295-91	SHORT 0	
JR600	1-216-295-91	SHORT 0	
		<COIL>	
L002	1-414-856-11	INDUCTOR 10UH	
L003	1-414-180-11	INDUCTOR 3.3UH	
L005	1-414-233-22	FERRITE 0UH	
L101	1-414-856-11	INDUCTOR 10UH	
L102	1-414-856-11	INDUCTOR 10UH	
L103	1-414-856-11	INDUCTOR 10UH	
L104	1-414-856-11	INDUCTOR 10UH	
L105	1-414-856-11	INDUCTOR 10UH	
L204	1-414-856-11	INDUCTOR 10UH	
L301	1-414-189-31	INDUCTOR 100UH	
L302	1-414-185-41	INDUCTOR 22UH	
L303	1-414-189-31	INDUCTOR 100UH	
L304	1-414-189-31	INDUCTOR 100UH	
L501	1-412-525-31	INDUCTOR 10UH	
L502	1-422-613-11	COIL, AIR CORE	
L503	1-412-525-31	INDUCTOR 10UH	
L504	1-412-525-31	INDUCTOR 10UH	
L505	1-412-525-31	INDUCTOR 10UH	
L506	1-412-525-31	INDUCTOR 10UH	
L507	1-459-111-00	INDUCTOR 10MH	
L509	1-419-390-11	INDUCTOR 390UH	
L510	1-416-972-11	COIL, HORIZONTAL LINEARITY	
L513	1-412-551-31	INDUCTOR 1.5MH	
L515	1-459-104-00	INDUCTOR 10MH	(EXCEPT XA21N93/XA21P80/XA51M61)
L518	1-414-187-11	INDUCTOR 47UH	
L601	1-412-527-11	INDUCTOR 15UH	
L901	1-408-603-31	INDUCTOR 10UH	
L902	1-408-603-31	INDUCTOR 10UH	
L905	1-414-856-11	INDUCTOR 10UH	
		<PHOTO COUPLER>	
PH600 ⚠	8-749-924-35	ON3171-R	
		<IC LINK>	
PS200	1-532-675-21	LINK, IC 1.5A/150V	
		<TRANSISTOR>	
Q002	8-729-230-49	2SC2712-YG	
Q101	8-729-230-49	2SC2712-YG	
Q201	8-729-424-67	UN2216	
Q202	8-729-424-67	UN2216	
Q205	8-729-421-19	UN2213	
Q206	8-729-421-19	UN2213	
Q207	8-729-421-19	UN2213	
Q301	8-729-216-22	2SA1162-G	
Q302	8-729-230-49	2SC2712-YG	
Q303	8-729-216-22	2SA1162-G	
Q305	8-729-216-22	2SA1162-G	
Q306	8-729-230-49	2SC2712-YG	
Q307	8-729-230-49	2SC2712-YG	
Q308	8-729-216-22	2SA1162-G	
Q312	8-729-216-22	2SA1162-G	
Q313	8-729-230-49	2SC2712-YG	
Q314	8-729-216-22	2SA1162-G	
Q315	8-729-421-19	UN2213	
Q316	8-729-216-22	2SA1162-G	
Q317	8-729-216-22	2SA1162-G	
Q401	8-729-424-67	UN2216	
Q402	8-729-424-67	UN2216	
Q403	8-729-216-22	2SA1162-G	
Q404	8-729-216-22	2SA1162-G	
Q503	8-729-230-49	2SC2712-YG	
Q505	8-729-931-45	IRF614	
Q506	8-729-140-96	2SD774-34	

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REF NO.	PART NO.	DESCRIPTION	REMARK
Q507	8-729-216-22	2SA1162-G	
Q509	8-729-230-49	2SC2712-YG	
Q511	8-729-048-07	2SD2578-CA	
Q601	8-729-023-22	2SD2114K	
Q602	8-729-230-49	2SC2712-YG	
Q603	8-729-027-23	DTA114EKA-T146	
Q604	8-729-200-17	2SA1091-O	
Q605	8-729-044-30	2SK2845-LB102	
Q606	8-729-230-49	2SC2712-YG	
Q607	8-729-922-37	2SD2144S-UVW (EXCEPT XA21N93/XA21P80)	
Q607	8-729-823-22	2SC3576 (XA21N93/XA21P80)	
Q608	8-729-230-49	2SC2712-YG	
Q901	8-729-421-19	UN2213	
Q902	8-729-421-19	UN2213	
		<RESISTOR>	
R001	1-414-233-22	FERRITE 0UH	
R002	1-216-025-11	RES-CHIP 100 5%	1/10W
R003	1-216-073-91	RES-CHIP 10K 5% (EXCEPT XA21N93)	1/10W
R003	1-216-295-91	SHORT 0 (XA21N93)	
R004	1-216-025-11	RES-CHIP 100 5%	1/10W
R005	1-216-025-11	RES-CHIP 100 5%	1/10W
R006	8-719-069-60	UDZSTE-179.1B	
R006	8-719-158-35	RD9.1S-B	
R007	1-216-295-91	SHORT 0 (EXCEPT XA21N93)	
R007	1-216-033-00	RES-CHIP 220 5% (XA21N93 ONLY)	1/10W
R008	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R009	1-216-065-91	RES-CHIP 4.7K 5% (KV-XA21N93 ONLY)	1/10W
R010	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R011	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R012	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R013	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R014	1-216-025-11	RES-CHIP 100 5%	1/10W
R015	1-216-025-11	RES-CHIP 100 5%	1/10W
R017	1-216-049-11	RES-CHIP 1K 5%	1/10W
R018	1-216-033-00	RES-CHIP 220 5%	1/10W
R019	1-216-073-91	RES-CHIP 10K 5%	1/10W
R020	1-216-045-00	RES-CHIP 680 5%	1/10W
R021	1-216-073-91	RES-CHIP 10K 5%	1/10W
R022	1-216-295-91	SHORT 0	
R024	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R025	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R026	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R027	1-216-073-91	RES-CHIP 10K 5%	1/10W
R028	1-216-049-11	RES-CHIP 1K 5% (KV-XA21M93/XA21N93/XA51M61)	1/10W
R029	1-216-049-11	RES-CHIP 1K 5%	1/10W
R031	1-216-049-11	RES-CHIP 1K 5%	1/10W
R035	1-216-025-11	RES-CHIP 100 5%	1/10W
R036	1-216-025-11	RES-CHIP 100 5%	1/10W
R037	1-216-025-11	RES-CHIP 100 5% (EXCEPT KV-XA21M83(ID)/XA21N93)	1/10W
R037	1-216-083-00	RES-CHIP 27K 5% (KV-XA21N93 ONLY)	1/10W
R040	1-216-025-11	RES-CHIP 100 5%	1/10W
R041	1-216-025-11	RES-CHIP 100 5%	1/10W
R042	1-216-295-91	SHORT 0	

REF NO.	PART NO.	DESCRIPTION	REMARK
R043	1-216-049-11	RES-CHIP 1K 5%	1/10W
R044	1-216-025-11	RES-CHIP 100 5%	1/10W
R045	1-216-025-11	RES-CHIP 100 5% (EXCEPT KV-XA21N93)	1/10W
R046	1-216-049-11	RES-CHIP 1K 5%	1/10W
R047	1-414-233-22	FERRITE 0UH	
R048	1-216-073-91	RES-CHIP 10K 5%	1/10W
R050	1-216-073-91	RES-CHIP 10K 5%	1/10W
R053	1-216-049-11	RES-CHIP 1K 5%	1/10W
R058	1-216-295-91	SHORT 0	
R059	1-216-295-91	SHORT 0	
R060	1-216-295-91	SHORT 0	
R061	1-216-033-00	RES-CHIP 220 5%	1/10W
R062	1-216-041-00	RES-CHIP 470 5%	1/10W
R063	1-216-037-00	RES-CHIP 330 5%	1/10W
R064	1-216-037-00	RES-CHIP 330 5%	1/10W
R065	1-216-037-00	RES-CHIP 330 5%	1/10W
R066	1-216-049-11	RES-CHIP 1K 5%	1/10W
R067	1-216-049-11	RES-CHIP 1K 5%	1/10W
R068	1-216-041-00	RES-CHIP 470 5%	1/10W
R101	1-216-025-11	RES-CHIP 100 5% (KV-XA21M93/XA51M61 ONLY)	1/10W
R102	1-216-025-11	RES-CHIP 100 5% (KV-XA21M93/XA51M61 ONLY)	1/10W
R103	1-216-025-11	RES-CHIP 100 5% (KV-XA21N93 ONLY)	1/10W
R104	1-216-025-11	RES-CHIP 100 5% (KV-XA21N93 ONLY)	1/10W
R105	1-216-295-91	SHORT 0	
R106	1-216-049-11	RES-CHIP 1K 5% (KV-XA21N93 ONLY)	1/10W
R109	1-216-041-00	RES-CHIP 470 5%	1/10W
R111	1-216-025-11	RES-CHIP 100 5%	1/10W
R112	1-216-025-11	RES-CHIP 100 5%	1/10W
R113	1-216-047-91	RES-CHIP 820 5%	1/10W
R114	1-216-065-91	RES-CHIP 4.7K 5% (KV-XA21N93 ONLY)	1/10W
R115	1-216-065-91	RES-CHIP 4.7K 5% (KV-XA21N93 ONLY)	1/10W
R202	1-216-053-00	RES-CHIP 1.5K 5%	1/10W
R203	1-216-049-11	RES-CHIP 1K 5% (EXCEPT KV-XA21P80/XA51M61)	1/10W
R203	1-216-065-91	RES-CHIP 4.7K 5% (KV-XA21P80/XA51M61 ONLY)	1/10W
R204	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R205	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R206	1-216-049-11	RES-CHIP 1K 5% (EXCEPT KV-XA21P80/XA51M61)	1/10W
R206	1-216-065-91	RES-CHIP 4.7K 5% (KV-XA21P80/XA51M61 ONLY)	1/10W
R207	1-216-053-00	RES-CHIP 1.5K 5%	1/10W
R208	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R209	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R210	1-216-029-00	RES-CHIP 150 5% (KV-XA21P80/XA51M61 ONLY)	1/10W
R211	1-216-033-00	RES-CHIP 220 5% (EXCEPT XA21P80/XA51M61)	1/10W
R212	1-216-033-00	RES-CHIP 220 5% (EXCEPT XA21P80/XA51M61)	1/10W
R212	1-216-029-00	RES-CHIP 150 5% (EXCEPT XA21P80/XA51M61)	1/10W
R225	1-216-033-00	RES-CHIP 220 5%	1/10W
R226	1-216-033-00	RES-CHIP 220 5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R227	1-216-033-00	RES-CHIP	220	5%	1/10W
R228	1-249-425-11	CARBON	4.7	5%	1/4W
R229	1-216-073-91	RES-CHIP	10K	5%	1/10W
R230	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
		(EXCEPT KV-XA51M61)			
R230	1-216-073-91	RES-CHIP	10K	5%	1/10W
		(KV-XA51M61 ONLY)			
R231	1-216-295-91	SHORT	0		
R234	1-249-425-11	CARBON	4.7	5%	1/4W
R237	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R238	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R239	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R242	1-216-025-11	RES-CHIP	100	5%	1/10W
R243	1-216-025-11	RES-CHIP	100	5%	1/10W
R246	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R247	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R301	1-216-073-91	RES-CHIP	10K	5%	1/10W
R302	1-216-295-91	SHORT	0		
R303	1-216-049-11	RES-CHIP	1K	5%	1/10W
R304	1-216-073-91	RES-CHIP	10K	5%	1/10W
R305	1-216-049-11	RES-CHIP	1K	5%	1/10W
R306	1-216-077-91	RES-CHIP	15K	5%	1/10W
R308	1-216-025-11	RES-CHIP	100	5%	1/10W
R309	1-216-025-11	RES-CHIP	100	5%	1/10W
R310	1-216-025-11	RES-CHIP	100	5%	1/10W
R311	1-216-041-00	RES-CHIP	470	5%	1/10W
R312	1-216-039-00	RES-CHIP	390	5%	1/10W
R313	1-216-037-00	RES-CHIP	330	5%	1/10W
R314	1-216-083-00	RES-CHIP	27K	5%	1/10W
R316	1-216-037-00	RES-CHIP	330	5%	1/10W
R317	1-216-091-00	RES-CHIP	56K	5%	1/10W
R318	1-216-039-00	RES-CHIP	390	5%	1/10W
R319	1-216-025-11	RES-CHIP	100	5%	1/10W
R320	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R321	1-216-073-91	RES-CHIP	10K	5%	1/10W
R322	1-216-033-00	RES-CHIP	220	5%	1/10W
R323	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R324	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R325	1-216-041-00	RES-CHIP	470	5%	1/10W
R331	1-216-295-91	SHORT	0		
R332	1-216-033-00	RES-CHIP	220	5%	1/10W
R333	1-216-073-91	RES-CHIP	10K	5%	1/10W
R334	1-216-127-11	RES-CHIP	1.8M	5%	1/10W
R335	1-216-045-00	RES-CHIP	680	5%	1/10W
R338	1-216-033-00	RES-CHIP	220	5%	1/10W
R340	1-216-025-11	RES-CHIP	100	5%	1/10W
R345	1-216-081-00	RES-CHIP	22K	5%	1/10W
R348	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R349	1-216-073-91	RES-CHIP	10K	5%	1/10W
R350	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R351	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R354	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R355	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R356	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R357	1-216-079-00	RES-CHIP	18K	5%	1/10W
R358	1-216-049-11	RES-CHIP	1K	5%	1/10W
R359	1-216-033-00	RES-CHIP	220	5%	1/10W
R360	1-216-033-00	RES-CHIP	220	5%	1/10W
R361	1-216-073-91	RES-CHIP	10K	5%	1/10W
R362	1-216-075-00	RES-CHIP	12K	5%	1/10W
R363	1-216-079-00	RES-CHIP	18K	5%	1/10W
R364	1-216-295-91	SHORT	0		

REF NO.	PART NO.	DESCRIPTION		REMARK	
R365	1-216-033-00	RES-CHIP	220	5%	1/10W
R366	1-216-073-91	RES-CHIP	10K	5%	1/10W
R367	1-216-073-91	RES-CHIP	10K	5%	1/10W
R370	1-216-033-00	RES-CHIP	220	5%	1/10W
R371	1-216-083-00	RES-CHIP	27K	5%	1/10W
R372	1-216-091-00	RES-CHIP	56K	5%	1/10W
R375	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-XA51M61 ONLY)			
R376	1-216-081-00	RES-CHIP	22K	5%	1/10W
R377	1-216-121-11	RES-CHIP	1M	5%	1/10W
R378	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R379	1-218-179-11	RES-CHIP	10M	5%	1/10W
R380	1-216-041-00	RES-CHIP	470	5%	1/10W
R383	1-216-049-11	RES-CHIP	1K	5%	1/10W
R384	1-216-295-91	SHORT	0		
R385	1-216-033-00	RES-CHIP	220	5%	1/10W
R391	1-216-049-11	RES-CHIP	1K	5%	1/10W
R401	1-216-049-11	RES-CHIP	1K	5%	1/10W
R402	1-216-073-91	RES-CHIP	10K	5%	1/10W
R403	1-216-073-91	RES-CHIP	10K	5%	1/10W
R404	1-216-073-91	RES-CHIP	10K	5%	1/10W
R405	1-216-049-11	RES-CHIP	1K	5%	1/10W
R406	1-216-073-91	RES-CHIP	10K	5%	1/10W
R407	1-216-049-11	RES-CHIP	1K	5%	1/10W
R408	1-216-049-11	RES-CHIP	1K	5%	1/10W
R409	1-216-041-00	RES-CHIP	470	5%	1/10W
R410	1-216-113-00	RES-CHIP	470K	5%	1/10W
R411	1-216-113-00	RES-CHIP	470K	5%	1/10W
R412	1-216-041-00	RES-CHIP	470	5%	1/10W
R413	1-216-021-00	RES-CHIP	68	5%	1/10W
R414	1-216-113-00	RES-CHIP	470K	5%	1/10W
R415	1-216-113-00	RES-CHIP	470K	5%	1/10W
R416	1-216-077-91	RES-CHIP	15K	5%	1/10W
R417	1-216-077-91	RES-CHIP	15K	5%	1/10W
R418	1-216-113-00	RES-CHIP	470K	5%	1/10W
R419	1-216-022-00	RES-CHIP	75	5%	1/10W
R426	1-216-033-00	RES-CHIP	220	5%	1/10W
R505	1-216-099-00	RES-CHIP	120K	5%	1/10W
R506	1-216-085-91	RES-CHIP	33K	5%	1/10W
R507	1-249-389-11	CARBON	4.7	5%	1/4W
R508	1-215-910-00	METAL OXIDE	68	5%	3W
R509	1-215-911-11	METAL OXIDE	100	5%	3W
R510	1-215-885-00	METAL OXIDE	68	5%	2W
R511	1-215-911-11	METAL OXIDE	100	5%	3W
R516	1-216-081-00	RES-CHIP	22K	5%	1/10W
R518	1-249-441-11	CARBON	100	5%	1/4W
R520	1-215-445-00	METAL	10K	1%	1/4W
R522	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R523	1-247-891-00	CARBON	330	5%	1/4W
R525	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R526	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R527	1-216-001-00	RES-CHIP	10	5%	1/10W
R528	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R529	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R531	1-249-387-11	CARBON	3.3K	5%	1/4W
R533	1-249-381-11	CARBON	1K	5%	1/4W
R534	1-216-361-00	METAL OXIDE	0.22	5%	2W
R535	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R536	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R537	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R540	1-216-065-91	RES-CHIP	4.7K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A

REF NO.	PART NO.	DESCRIPTION		REMARK	
R541	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R542	1-216-295-91	SHORT	0		
R543	1-216-437-00	METAL OXIDE	5.6K	5%	1W
R544	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R545	1-216-077-91	RES-CHIP	15K	5%	1/10W
R546	1-216-077-91	RES-CHIP	15K	5%	1/10W
R547	1-216-085-91	RES-CHIP	33K	5%	1/10W
R549	1-215-451-00	METAL	18K	1%	1/4W
R550	1-216-097-11	RES-CHIP	100K	5%	1/10W
R551	1-249-385-11	CARBON	2.2K	5%	1/4W
R552	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R553	1-215-457-00	METAL	33K	1%	1/4W
R554	1-215-457-00	METAL	33K	1%	1/4W
R556	1-215-437-00	METAL	4.7K	1%	1/4W
R558	1-249-385-11	CARBON	2.2K	5%	1/4W
R559	1-249-393-11	CARBON	10K	5%	1/4W
R560	1-216-073-91	RES-CHIP	10K	5%	1/10W
R562	1-247-871-91	CARBON	47	5%	1/4W
R565	1-216-073-91	RES-CHIP	10K	5%	1/10W
R567	1-216-105-91	RES-CHIP	220K	5%	1/10W
R568	1-249-383-11	CARBON	1.5	5%	1/4W
R570	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R571	1-215-437-00	METAL	4.7K	1%	1/4W
R573	1-216-089-91	RES-CHIP	47K	5%	1/10W
R577	1-215-913-11	METAL OXIDE	220	5%	3W
R578	1-216-369-00	METAL OXIDE	1	5%	2W
R579	1-216-097-11	RES-CHIP	100K	5%	1/10W
R580	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R581	1-208-794-11	METAL CHIP	3.3K	0.5%	1/10W
R582	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R584	1-216-295-91	SHORT	0		
R585	1-249-391-11	CARBON	6.8	5%	1/4W
R587	1-208-834-11	METAL CHIP	150K	0.5%	1/10W
R588	1-215-888-00	METAL OXIDE	220	5%	2W
R589	1-215-888-00	METAL OXIDE	220	5%	2W
R590	1-215-465-00	METAL	68K	1%	1/4W
R591	1-260-288-11	CARBON	0.47	5%	1/2W
R593	1-260-288-11	CARBON	0.47	5%	1/2W
R594	1-260-288-11	CARBON	0.47	5%	1/2W
R596	1-215-921-11	METAL OXIDE	4.7K	5%	3W
R597	1-247-750-11	CARBON	680	5%	1/2W
R598	1-249-402-11	CARBON	56K	5%	1/4W
R599	1-249-425-11	CARBON	4.7	5%	1/4W
R600	1-249-402-11	CARBON	56K	5%	1/4W
R601	1-249-418-11	CARBON	1.2K	5%	1/4W
R602	1-249-389-11	CARBON	4.7	5%	1/4W
R603	1-215-485-00	METAL	470K	1%	1/4W
R604	1-216-097-11	RES-CHIP	100K	5%	1/10W
R606	1-216-308-00	RES-CHIP	4.7	5%	1/10W
		(EXCEPT KV-XA21P80/XA51M61)			
R607	1-249-389-11	CARBON	4.7K	5%	1/4W
R608	1-240-205-91	CARBON	22M	5%	1/2W
R609	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R610	1-216-073-91	RES-CHIP	10K	5%	1/10W
R611	1-216-089-91	RES-CHIP	47K	5%	1/10W
R612	1-216-045-00	RES-CHIP	680	5%	1/10W
R614	1-216-041-00	RES-CHIP	470	5%	1/10W
R615	1-216-350-11	METAL OXIDE	1.2	5%	1W
R616	1-260-302-51	CARBON	6.8	5%	1/2W
R617	1-249-433-11	CARBON	22	5%	1/4W
R619	1-260-128-91	CARBON	270K	5%	1/2W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R620	1-215-915-11	METAL OXIDE	470	5%	3W
R622	1-216-397-11	METAL OXIDE	4.7	5%	3W
		(EXCEPT XA21N93/XA21P80)			
R622	1-215-908-00	METAL OXIDE	33	5%	3W
		(KV-XA21N93/XA21P80 ONLY)			
R623	1-216-095-00	RES-CHIP	82K	5%	1/10W
R624	1-216-089-91	RES-CHIP	47K	5%	1/10W
R626	1-216-049-11	RES-CHIP	1K	5%	1/10W
R627	1-240-251-11	CMT-MELF	6.8	5%	10W
R629	1-247-747-11	CARBON	470	5%	1/2W
R630	1-249-429-11	CARBON	10K	5%	1/4W
R631	1-216-089-91	RES-CHIP	47K	5%	1/10W
R632	1-202-933-61	FUSIBLE	0.1	10%	1/2W
R634	⚠ 1-218-265-11	METAL	8.2M	5%	1W
R635	1-216-492-11	METAL OXIDE	82K	5%	3W
R636	1-215-924-00	METAL OXIDE	15K	5%	3W
R637	1-216-492-11	METAL OXIDE	82K	5%	3W
R639	1-216-363-00	METAL OXIDE	0.33	5%	2W
R640	1-247-899-11	CARBON	680	5%	1/4W
R641	1-216-362-11	METAL OXIDE	0.27	5%	2W
R642	1-249-383-11	CARBON	1.5K	5%	1/4W
R643	1-249-387-11	CARBON	3.3K	5%	1/4W
R644	1-249-383-11	CARBON	1.5K	5%	1/4W
R646	1-215-924-00	METAL OXIDE	15K	5%	3W
R647	1-247-871-91	CARBON	47	5%	1/4W
R648	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R649	1-249-381-11	CARBON	1K	5%	1/4W
R650	1-215-882-00	METAL OXIDE	22	5%	2W
R652	1-215-925-11	METAL OXIDE	22K	5%	3W
R653	1-215-873-00	METAL OXIDE	4.7K	5%	1W
R657	1-260-127-11	CARBON	220K	5%	1/2W
R659	1-216-049-11	RES-CHIP	1K	5%	1/10W
R660	1-216-073-91	RES-CHIP	10K	5%	1/10W
R661	1-215-873-00	METAL OXIDE	4.7K	5%	1W
R680	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R901	1-247-891-00	CARBON	330	5%	1/4W
R902	1-247-891-00	CARBON	330	5%	1/4W
R903	1-216-022-00	RES-CHIP	75	5%	1/10W
R904	1-216-033-00	RES-CHIP	220	5%	1/10W
R905	1-216-113-00	RES-CHIP	470K	5%	1/10W
R906	1-216-025-11	RES-CHIP	100	5%	1/10W
R907	1-216-113-00	RES-CHIP	470K	5%	1/10W
R908	1-216-025-11	RES-CHIP	100	5%	1/10W
R909	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R910	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R911	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R912	1-216-041-00	RES-CHIP	470	5%	1/10W
R913	1-216-049-11	RES-CHIP	1K	5%	1/10W
R914	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R915	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R916	1-216-017-91	RES-CHIP	47	5%	1/10W
R917	1-216-041-00	RES-CHIP	470	5%	1/10W
R918	1-216-041-00	RES-CHIP	470	5%	1/10W

<RELAY>

RY601	⚠ 1-755-214-11	RELAY, AC POWER	

A C1

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION	REMARK
		<SWITCH>	
S502	1-572-707-11	SWITCH, LEVER	
S600	⚠ 1-571-433-21	SWITCH, PUSH (AC POWER)	
S901	1-692-431-21	SWITCH, TACTILE	
S902	1-692-431-21	SWITCH, TACTILE	
S903	1-692-431-21	SWITCH, TACTILE	
S904	1-692-431-21	SWITCH, TACTILE	
S905	1-692-431-21	SWITCH, TACTILE	
S906	1-692-431-21	SWITCH, TACTILE	
S907	1-692-431-21	SWITCH, TACTILE	
		<TRANSFORMER>	
T501	1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE	
T503	⚠ 1-453-352-11	TRANSFORMER ASSY, FLYBACK/NX-1748//M3A4 (KV-XA21M83(VT)	
T503	⚠ 1-453-293-11	TRANSFORMER ASSY, FLYBACK/NX-1748//M3A4 (KV-XA21N93/XA21P80/XA51M61)	
T601	⚠ 1-424-682-11	TRANSFORMER, LINE FILTER	
T603	⚠ 1-433-512-31	TRANSFORMER, CONVERTER (SRT)	
T604	⚠ 1-431-852-11	TRANSFORMER, CONVERTER (SRT)	
		<THERMISTOR>	
TH600	1-803-586-11	THERMISTOR, NTC	
		<THERMISTOR>	
THP600	1-803-951-11	THERMISTOR, PTC	
		<TUNER>	
TU101	8-598-449-10	TUNER, FSS BTF-LG433 (KV-XA21M83(VT)/XA21M83(ID)	
TU101	8-598-477-30	TUNER, FSS BTF-WG411 (KV-XA21N93 ONLY)	
TU101	8-598-447-10	TUNER, FSS BTF-LG411 (KV-XA21P80 ONLY)	
TU101	8-598-451-00	TUNER, FSS BTF-WG441 (KV-XA21M93/XA-XA51M61 ONLY)	
		<CRYSTAL>	
X001	1-579-125-11	VIBRATOR, CERAMIC	
X301	1-781-134-21	VIBRATOR, CRYSTAL	
X302	1-781-132-21	VIBRATOR, CRYSTAL	

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*	A-1332-180-A	C1 BOARD MOUNTED (KV-XA21M83(VT)	
*	A-1332-178-A	C1 BOARD MOUNTED (KV-XA21M83(ID)/XA21M93)	
*	A-1332-194-A	C1 BOARD MOUNTED (KV-XA21N93)	
*	A-1332-195-A	C1 BOARD MOUNTED (KV-XA21P80)	
*	A-1332-176-A	C1 BOARD MOUNTED (KV-XA51M61)	
		**********	
	7-682-948-01	SCREW +PSW 3X8	

REF NO.	PART NO.	DESCRIPTION			REMARK
		<CAPACITOR>			
C700	1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C701	1-126-933-11	ELECT	100UF	20.00%	16V
C702	1-102-114-00	CERAMIC	470PF	10.00%	50V
C703	1-110-389-11	FILM MELF	0.1UF	5%	250V
C705	1-162-114-00	CERAMIC	0.0047UF		2KV
C706	1-130-202-00	FILM	0.022UF	5.00%	400V
C707	1-107-651-11	ELECT	4.7UF	20.00%	250V
C1803	1-125-797-91	ELECT (EXCEPT KV-XA21N93)	10UF	20.00%	50V
C1804	1-125-797-91	ELECT (EXCEPT KV-XA21N93)	10UF	20.00%	50V
C1809	1-126-942-61	ELECT (EXCEPT KV-XA21N93)	1000UF	20.00%	25V
C5952	1-107-616-11	CERAMIC	150PF	10.00%	500V
C5954	1-102-112-00	CERAMIC	330PF	10.00%	50V
C5955	1-104-660-91	ELECT	47UF	20.00%	16V
C5961	1-161-830-00	CERAMIC	0.0047UF		500V
C5962	1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5963	1-107-638-11	ELECT	33UF	20.00%	160V
C5964	1-126-935-11	ELECT	470UF	20.00%	10V
C5968	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C5969	1-107-949-11	ELECT	2.2UF	20.00%	160V
C5970	1-104-999-11	MYLAR	0.1UF	10.00%	200V
C5972	1-126-935-11	ELECT	470UF	20.00%	16V
C5973	1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5975	1-126-935-11	ELECT	470UF	20.00%	10V
C5978	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5979	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5980	1-104-664-11	ELECT	47UF	20.00%	10V
		<#########>			
CLP701	4-352-844-01	PIN, LEAD, COATING			
CLP702	4-352-844-01	PIN, LEAD, COATING			
CLP707	4-352-844-01	PIN, LEAD, COATING			
		<CONNECTOR>			
CN700	1-695-915-11	TAB (CONTACT)			
CN701	1-564-509-11	PLUG, CONNECTOR 6P			
CN703	1-695-915-11	TAB (CONTACT)			
CN706	1-564-507-11	PLUG, CONNECTOR 4P			
CN1801	1-564-507-21	PLUG, CONNECTOR 4P (EXCEPT KV-XA21N93)			
CN1802	1-564-506-21	PLUG, CONNECTOR 3P (EXCEPT KV-XA21N93)			
CN5961 *	1-564-510-11	PLUG, CONNECTOR 7P			
CN5962	1-564-506-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D704	8-719-911-19	1SS119-25			
D705	8-719-911-19	1SS119-25			
D707	8-719-051-85	HSS83TD			
D708	8-719-051-85	HSS83TD			
D709	8-719-051-85	HSS83TD			
D1803	8-719-911-19	1SS119-25 (EXCEPT KV-XA21N93)			
D1804	8-719-911-19	1SS119-25 (EXCEPT KV-XA21N93)			
D1808	8-719-908-03	GP08D (EXCEPT KV-XA21N93)			
D5964	8-719-911-19	1SS119-25			
D5967	8-719-110-88	RD39ES-B2			

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C1

REF NO.	PART NO.	DESCRIPTION			REMARK
D5968	8-719-110-88	RD39ES-B2			
		<IC>			
IC700	8-759-712-99	TDA6107Q/N2			
IC1800	8-759-822-38	LA6510 (EXCEPT KV-XA21N93)			
		<JACK>			
J701	⚠ 1-540-071-22	SOCKET, CRT			
		<COIL>			
L705	1-414-186-31	INDUCTOR	33UH		
L707	1-414-186-31	INDUCTOR	33UH		
L708	1-410-667-31	INDUCTOR	22UH		
L5961	1-414-187-11	INDUCTOR	47UH		
		<TRANSISTOR>			
Q700	8-729-119-76	2SA1175-HFE			
Q1802	8-729-139-96	2SC2785TP-HFE (EXCEPT KV-XA21N93)			
Q5961	8-729-423-33	2SC3311A-QRSTA			
Q5962	8-729-423-33	2SC3311A-QRSTA			
Q5963	8-729-017-05	2SA1837			
Q5965	8-729-017-06	2SC4793			
Q5967	8-729-423-33	2SC3311A-QRSTA			
Q5968	8-729-119-76	2SA1175-HFE			
		<RESISTOR>			
R700	1-219-743-11	CARBON	100	5%	1/2W
R703	1-249-441-11	CARBON	100	5%	1/4W
R704	1-249-441-11	CARBON	100	5%	1/4W
R705	1-249-441-11	CARBON	100	5%	1/4W
R709	1-219-746-11	CARBON	1K	5%	1/2W
R710	1-240-933-91	CARBON (EXCEPT KV-XA21M93)	1.5K	5%	0.5W
R710	1-219-746-11	CARBON (KV-XA21M93)	1K	5%	1/2W
R711	1-219-746-11	CARBON	1K	5%	1/2W
R712	1-219-752-11	CARBON	100K	5%	1/2W
R713	1-216-399-00	METAL OXIDE	6.8	5%	3W
R714	1-216-380-11	METAL OXIDE	8.2	5%	2W
R715	1-249-401-11	CARBON	47	5%	1/4W
R716	1-249-393-11	CARBON	10K	5%	1/4W
R717	1-249-441-11	CARBON	100	5%	1/4W
R718	1-249-392-11	CARBON	8.2K	5%	1/4W
R719	1-215-473-00	METAL	150K	1%	1/4W
R720	1-215-473-00	METAL	150K	1%	1/4W
R722	1-249-411-11	CARBON	330K	5%	1/4W
R1802	1-249-382-11	CARBON (EXCEPT KV-XA21N93)	1.2	5%	1/4W
R1803	1-249-382-11	CARBON (EXCEPT KV-XA21N93)	1.2	5%	1/4W
R1805	1-249-393-11	CARBON (EXCEPT KV-XA21N93)	10K	5%	1/4W
R1806	1-249-389-11	CARBON (EXCEPT KV-XA21N93)	4.7K	5%	1/4W
R1808	1-249-389-11	CARBON (EXCEPT KV-XA21N93)	4.7K	5%	1/4W
R1809	1-249-399-11	CARBON (EXCEPT KV-XA21N93)	33K	5%	1/4W
R1810	1-249-399-11	CARBON (EXCEPT KV-XA21N93)	33K	5%	1/4W
R1811	1-249-440-11	CARBON (EXCEPT KV-XA21N93)	82K	5%	1/4W
R1812	1-249-399-11	CARBON (EXCEPT KV-XA21N93)	33K	5%	1/4W
R1821	1-249-440-11	CARBON (EXCEPT KV-XA21N93)	82K	5%	1/4W
R1822	1-249-399-11	CARBON (EXCEPT KV-XA21N93)	33K	5%	1/4W
R1823	1-249-390-11	CARBON (EXCEPT KV-XA21N93)	5.6K	5%	1/4W
R1824	1-249-399-11	CARBON (EXCEPT KV-XA21N93)	33K	5%	1/4W
R5950	1-247-871-91	CARBON	47	5%	1/4W
R5951	1-249-436-11	CARBON	39	5%	1/4W
R5952	1-249-434-11	CARBON	27	5%	1/4W
R5961	1-249-389-11	CARBON	4.7	5%	1/4W
R5962	1-249-441-11	CARBON	100	5%	1/4W
R5963	1-249-381-11	CARBON	1K	5%	1/4W
R5964	1-260-312-11	CARBON	47	5%	1/2W
R5965	1-249-414-11	CARBON	560	5%	1/4W
R5966	1-249-381-11	CARBON	1K	5%	1/4W
R5967	1-247-889-00	CARBON	270	5%	1/4W
R5968	1-249-381-11	CARBON	1K	5%	1/4W
R5969	1-249-383-11	CARBON	1.5	5%	1/4W
R5971	1-247-887-00	CARBON	220	5%	1/4W
R5972	1-249-396-11	CARBON	18K	5%	1/4W
R5973	1-249-439-11	CARBON	68	5%	1/4W
R5974	1-216-476-11	METAL OXIDE	180	5%	3W
R5975	1-249-417-11	CARBON	1K	5%	1/4W
R5976	1-249-396-11	CARBON	18K	5%	1/4W
R5977	1-249-393-11	CARBON	10K	5%	1/4W
R5978	1-249-441-11	CARBON	100	5%	1/4W
R5979	1-249-414-11	CARBON	560	5%	1/4W
R5980	1-249-441-11	CARBON	100	5%	1/4W
R5981	1-247-901-11	CARBON	820	5%	1/4W
R5982	1-249-383-11	CARBON	1.5	5%	1/4W
R5985	1-249-401-11	CARBON	47	5%	1/4W
R5986	1-249-397-11	CARBON	22	5%	1/4W
		<VARIABLE RESISTOR>			
RV700	1-241-656-11	RES, ADJ, METAL FILM 110M			
		<SPARK GAP>			
SG700	1-519-422-11	GAP, SPARK			
SG701	1-519-422-11	GAP, SPARK			
SG702	1-519-422-11	GAP, SPARK			

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

F H4 J3 K2

REF NO.		PART NO.	DESCRIPTION	REMARK
	*	A-1241-487-A	F BOARD MOUNTED (KV-XA21M83(VT)	
	*	A-1241-485-A	F BOARD MOUNTED (KV-XA21M83(ID)/XA21M93)	
	*	A-1241-497-A	F BOARD MOUNTED (KV-XA21N93)	
	*	A-1241-498-A	F BOARD MOUNTED (KV-XA21P80	
	*	A-1241-483-A	F BOARD MOUNTED (KV-XA51M61)	
			**********	
		1-533-223-11	CLIP, FUSE	
	*	4-374-846-01	COVER, CAPACITOR, CAP TYPE	
			<CAPACITOR>	
C654	⚠	1-117-703-11	CERAMIC 0.0047UF 99% 250V	
C4602		1-104-708-11	MYLAR 0.47UF 20.00% 250V	
			<CONNECTOR>	
CN4601		1-580-843-11	PIN, CONNECTOR (POWER)	
CN4602	⚠	1-580-843-11	PIN, CONNECTOR (POWER)	
CN4603		1-695-915-11	TAB (CONTACT)	
			<FUSE>	
F4601	⚠	1-532-237-00	FUSE, TIME-LAG (BET) 3.15A/250V	
			<RESISTOR>	
R4601	⚠	1-202-719-00	SOLID 1M 10% 1/2W	
			<TRANSFORMER>	
T4601	⚠	1-424-682-11	TRANSFORMER, LINE FILTER	
T4602	⚠	1-424-682-11	TRANSFORMER, LINE FILTER	
			<VARISTOR>	
VDR461		1-803-830-11	VARISTOR (ERZV14D621)	
**********				
	*	A-1372-975-A	H4 BOARD MOUNTED (KV-XA21M83(VT)	
	*	A-1372-973-A	H4 BOARD MOUNTED (KV-XA21M83(ID)/XA21M93)	
	*	A-1377-003-A	H4 BOARD MOUNTED (KV-XA21N93)	
			**********	
			<CONNECTOR>	
CN4901		1-564-507-21	PLUG, CONNECTOR 4P	
CN4902		1-564-509-11	PLUG, CONNECTOR 6P	
CN4903		1-564-507-41	PLUG, CONNECTOR 4P	
			<JACK>	
J4901		1-750-264-11	JACK	
**********				

REF NO.		PART NO.	DESCRIPTION	REMARK
	*	A-1388-318-A	J3 BOARD MOUNTED (KV-XA21M83(VT)	
	*	A-1388-317-A	J3 BOARD MOUNTED (KV-XA21M83(ID)/XA21M93)	
	*	A-1388-325-A	J3 BOARD MOUNTED (KV-XA21N93)	
			**********	
			<CONNECTOR>	
CN3451	*	1-564-518-11	PLUG, CONNECTOR 3P	
			<DIODE>	
D3451		8-719-110-72	RD30ESB2	
D3452		8-719-110-72	RD30ESB2	
D3453		8-719-110-72	RD30ESB2	
D3454		8-719-110-72	RD30ESB2	
			<JACK>	
J3451		1-694-467-11	TERMINAL, PUSH (2P)	
**********				
	*	A-1380-652-A	K2 BOARD MOUNTED (KV-XA21M83(VT)	
	*	A-1380-651-A	K2 BOARD MOUNTED (KV-XA21M83(ID)/XA21M93)	
	*	A-1380-655-A	K2 BOARD MOUNTED (KV-XA21N93)	
			**********	
		4-382-854-11	SCREW (M3X10), P, SW (+)	
			<CAPACITOR>	
C4201		1-125-800-91	ELECT 2.2UF 20.00% 63V (KV-XA21M83(ID)/XA21M93)	
C4201		1-126-961-11	ELECT 2.2UF 20.00% 50V (EXCEPT KV-XA21M83(ID)/XA21M93)	
C4202		1-125-800-91	ELECT 2.2UF 20.00% 63V (KV-XA21M83(ID)/XA21M93)	
C4202		1-126-961-11	ELECT 2.2UF 20.00% 50V (EXCEPT KV-XA21M83(ID)/XA21M93)	
C4203		1-130-495-00	MYLAR 0.1UF 5.00% 50V	
C4204		1-125-800-91	ELECT 2.2UF 20.00% 63V (KV-XA21M83(ID)/XA21M93)	
C4204		1-126-961-11	ELECT 2.2UF 20.00% 50V (EXCEPT KV-XA21M83(ID)/XA21M93)	
C4205		1-130-495-00	MYLAR 0.1UF 5.00% 50V	
C4206		1-125-797-91	ELECT 10UF 20.00% 50V	
C4208		1-126-934-11	ELECT 220UF 20.00% 16V	
C4209		1-126-943-11	ELECT 2200UF 20.00% 25V	
C4210		1-125-800-91	ELECT 2.2UF 20.00% 63V (KV-XA21M83(ID)/XA21M93)	
C4210		1-126-961-11	ELECT 2.2UF 20.00% 50V (EXCEPT KV-XA21M83(ID)/XA21M93)	
C4211		1-125-800-91	ELECT 2.2UF 20.00% 63V (KV-XA21M83(ID)/XA21M93)	
C4211		1-126-961-11	ELECT 2.2UF 20.00% 50V (EXCEPT KV-XA21M83(ID)/XA21M93)	
C4212		1-128-551-11	ELECT 22UF 20.00% 25V (EXCEPT KV-XA21P80/XA51M61)	
C4213		1-126-943-11	ELECT 2200UF 20.00% 25V	
C4214		1-126-943-11	ELECT 2200UF 20.00% 25V	
C4215		1-126-933-11	ELECT 100UF 20.00% 16V	
C4216		1-126-934-11	ELECT 220UF 20.00% 16V	

V1 **K2**

REF NO.	PART NO.	DESCRIPTION			REMARK
C4217	1-125-797-91	ELECT	10UF	20.00%	50V
C4273	1-125-797-91	ELECT	10UF	20.00%	50V
		<CONNECTOR>			
CN4201 *	1-564-510-11	PLUG, CONNECTOR 7P			
CN4202	1-564-507-11	PLUG, CONNECTOR 4P			
CN4203	1-564-506-11	PLUG, CONNECTOR 3P			
CN4204	1-564-507-41	PLUG, CONNECTOR 4P			
		<DIODE>			
D4205	8-719-911-19	1SS119-25			
		<IC>			
IC4200	8-759-980-43	TDA2009A			
		<IC LINK>			
PS4200	1-532-675-21	LINK, IC 1.5A/150V			
		<TRANSISTOR>			
Q4201	8-729-120-28	2SC1623-L5L6			
Q4203	8-729-120-28	2SC1623-L5L6			
Q4205	8-729-120-28	2SC1623-L5L6			
Q4206	8-729-224-62	2SK246-GR			
		<RESISTOR>			
R4201	1-249-377-11	CARBON	0.47	5%	1/4W
R4202	1-249-377-11	CARBON	0.47	5%	1/4W
R4203	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4204	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4205	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4206	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R4207	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R4208	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4209	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4210	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4211	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4212	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4213	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4214	1-216-041-00	RES-CHIP	470	5%	1/10W
R4215	1-216-025-11	RES-CHIP	100	5%	1/10W
R4217	1-216-025-11	RES-CHIP	100	5%	1/10W
R4218	1-247-807-31	CARBON	100K	5%	1/4W
R4219	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4221	1-249-390-11	CARBON	5.6K	5%	1/4W
R4222	1-249-393-11	CARBON	10K	5%	1/4W
R4230	1-216-057-00	RES-CHIP	2.2K	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1347-174-A	V1 BOARD COMPLETE (KV-XA51M61 only)			
		**********			
		<CAPACITOR>			
C801	1-104-660-91	ELECT	47UF	20.00%	16V
C805	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C806	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C814	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C815	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C816	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C817	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C818	1-163-239-11	CERAMIC CHIP	33PF	5.00%	50V
C820	1-163-239-11	CERAMIC CHIP	33PF	5.00%	50V
C821	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C822	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C823	1-126-933-11	ELECT	100UF	20.00%	16V
C826	1-126-963-11	ELECT	4.7UF	20.00%	50V
C829	1-163-113-00	CERAMIC CHIP	68PF	5.00%	50V
C830	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C831	1-126-933-11	ELECT	100UF	20.00%	16V
C832	1-126-964-11	ELECT	10UF	20.00%	50V
C835	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C837	1-126-933-11	ELECT	100UF	20.00%	16V
		<CONNECTOR>			
CN801 *	1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
CN803 *	1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
		<DIODE>			
D802	8-719-914-44	DAP202K			
D803	8-719-105-46	RD3.3M-B2			
D804	8-719-105-91	RD5.6M-B2			
		<FERRITE BEAD>			
FB801	1-410-397-21	FERRITE	1.1UH		
FB802	1-410-397-21	FERRITE	1.1UH		
FB803	1-410-397-21	FERRITE	1.1UH		
FB804	1-410-682-31	INDUCTOR	470UH		
FB805	1-410-397-21	FERRITE	1.1UH		
		<IC>			
IC801	8-759-476-87	SAA5261			
		<CHIP CONDUCTOR>			
JR800	1-216-295-91	SHORT	0		
JR801	1-216-295-91	SHORT	0		
JR802	1-216-295-91	SHORT	0		
JR804	1-216-295-91	SHORT	0		
JR805	1-216-295-91	SHORT	0		
		<TRANSISTOR>			
Q801	8-729-120-28	2SC1623-L5L6			
Q803	8-729-120-28	2SC1623-L5L6			
Q805	8-729-120-28	2SC1623-L5L6			
Q806	8-729-120-28	2SC1623-L5L6			
Q807	8-729-120-28	2SC1623-L5L6			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION			REMARK
Q808	8-729-120-28	2SC1623-L5L6			
Q810	8-729-120-28	2SC1623-L5L6			
Q811	8-729-019-01	2SD2394-EF			
Q817	8-729-900-53	DTC114EK			
		<RESISTOR>			
R800	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R801	1-216-295-91	SHORT	0		
R802	1-216-025-11	RES-CHIP	100	5%	1/10W
R803	1-216-295-91	SHORT	0		
R804	1-216-295-91	SHORT	0		
R805	1-216-295-91	SHORT	0		
R807	1-216-295-91	SHORT	0		
R813	1-216-295-91	SHORT	0		
R820	1-216-073-91	RES-CHIP	10K	5%	1/10W
R821	1-216-083-00	RES-CHIP	27K	5%	1/10W
R822	1-216-025-11	RES-CHIP	100	5%	1/10W
R824	1-216-295-91	SHORT	0		
R825	1-216-295-91	SHORT	0		
R827	1-216-295-91	SHORT	0		
R828	1-216-025-11	RES-CHIP	100	5%	1/10W
R829	1-216-025-11	RES-CHIP	100	5%	1/10W
R830	1-216-295-91	SHORT	0		
R831	1-216-295-91	SHORT	0		
R832	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R835	1-216-295-91	SHORT	0		
R839	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R841	1-216-025-11	RES-CHIP	100	5%	1/10W
R842	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R843	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R844	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R845	1-216-049-11	RES-CHIP	1K	5%	1/10W
R846	1-216-049-11	RES-CHIP	1K	5%	1/10W
R847	1-216-049-11	RES-CHIP	1K	5%	1/10W
R848	1-216-049-11	RES-CHIP	1K	5%	1/10W
R849	1-216-049-11	RES-CHIP	1K	5%	1/10W
R850	1-216-105-91	RES-CHIP	220K	5%	1/10W
R851	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R853	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R857	1-216-077-91	RES-CHIP	15K	5%	1/10W
R861	1-216-049-11	RES-CHIP	1K	5%	1/10W
R862	1-260-095-11	CARBON	470	5%	1/2W
R863	1-216-049-11	RES-CHIP	1K	5%	1/10W
R864	1-216-041-00	RES-CHIP	470	5%	1/10W
R866	1-215-880-00	METAL OXIDE	10	5%	2W
R871	1-216-037-00	RES-CHIP	330	5%	1/10W
R879	1-216-073-91	RES-CHIP	10K	5%	1/10W
R880	1-216-041-00	RES-CHIP	470	5%	1/10W
R882	1-216-049-11	RES-CHIP	1K	5%	1/10W
R884	1-216-025-11	RES-CHIP	100	5%	1/10W
		<CRYSTAL>			
X801	1-578-774-11	VIBRATOR, CRYSTAL			

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REF NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
	1-505-937-31	SPEAKER (10CM) (EXCEPT KV-XA21P80/XA51M61)	
	1-416-864-12	COIL, VM	
⚠	1-424-825-11	COIL, DEGAUSSING (KV-XA21M83(ID)/XA21M93	
⚠	1-419-479-61	COIL, DEGAUSSING (KV-XA21M83(VT)	
⚠	1-416-946-11	COIL, DEMAGNETIC (KV-XA21N93/XA21P80)	
⚠	1-416-946-61	COIL, DEGAUSSING (KV-XA51M61)	
	1-452-032-00	MAGNET,DISC	
	1-452-728-41	COIL, NA ROTATION (RT-154) (KV-XA21M83(ID)/XA21M93/XA21P80)	
	1-452-728-61	COIL, NA ROTATION (RT-154) (KV-XA21M83(VT)/XA51M61)	
	1-529-125-11	SPEAKER (13X7CM)	
	1-529-125-11	SPEAKER (15X6.5CM) (KV-XA21M83(ID)/XA21M93)	
	1-503-902-11	SPEAKER, LOUD (15X6.5CM) (KV-XA21M83(VT)	
⚠	1-782-452-11	CORD, POWER (WITH CONNECTOR) (KV-XA21M83(ID)/XA21M93)	
⚠	1-574-062-11	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-XA21M83(VT)/XA51M61/XA21P80)	
⚠	1-575-023-11	CORD, POWER (WITH CONNECTOR) 6A/250V (KV-XA21N93)	
	1-540-005-31	CAP ASSY, HIGH VOLTAGE (KV-XA21M83(VT)/N93/M61/P80)	
	1-573-657-21	PLUG, F-PIN (KV-XA21N93)	
	1-417-151-21	MATCHING TRANSFORMER, ANTENNA (KV-XA21P80)	
	1-501-730-11	ANTENNA, TELESCOPIC (KV-XA21P80)	
⚠	8-738-809-05	PICTURE TUBE (A51LPT70X) (EXCEPT KV-XA51M61)	
⚠	8-738-812-05	PICTURE TUBE (A51LPT70X)(KV-XA51M61)	
⚠	8-451-505-11	DEFLECTION YOKE (Y21RSA-S)	

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		ACCESSORIES AND PACKING MATERIALS	
		**********	
	3-701-910-00	SCREW, SPECIAL (DIA. 3.8X20)	
*	4-053-003-01	BAG, PROTECTION (KV-XA21M83(ID)/XA21M93/XA21P80)	
*	4-062-162-11	BAG, PROTECTION (KV-XA21M83(VT)	
*	4-039-372-01	BAG, PROTECTION (KV-XA21N93)	
*	4-055-210-21	BAG, PROTECTION (KV-XA51M61)	
	4-082-206-01	CUSHION (UPPER) ASSY (KV-XA21M83(ID)/XA21M93)	
*	4-082-707-01	CUSHION(UPPER)(ASSY) (KV-XA21M83(VT)	
	*4-083-496-01	CUSHION(UPPER)(ASSY)(KV-XA21N93)	
*	4-083-608-01	CUSHION (UPPER) (ASSY)(KV-XA21P80)	
	4-083-557-01	CUSHION (UPPER) (ASSY)(KV-XA51M61)	
	4-082-208-01	CUSHION (LEFT UPPER) (KV-XA21M83(ID)/XA21M93)	
	4-082-209-01	CUSHION (RIGHT UPPER) (KV-XA21M83(ID)/XA21M93)	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION	REMARK
	4-082-207-01	CUSHION (LOWER) ASSY (KV-XA21M83(ID)/XA21M93)	
*	4-082-708-01	CUSHION(LOWER)(ASSY) (KV-XA21M83(VT)	
*	4-083-497-01	CUSHION(LOWER)(ASSY) (KV-XA21N93)	
*	4-083-609-01	CUSHION (LOWER) (ASSY) (KV-XA21P80)	
	4-083-558-01	CUSHION (LOWER) (ASSY) (KV-XA51M61)	
	4-082-210-01	CUSHION (LEFT LOWER) (KV-XA21M83(ID)/XA21M93)	
	4-082-211-01	CUSHION (RIGHT LOWER) (KV-XA21M83(ID)/XA21M93)	
	4-083-559-01	CUSHION (LEFT UPPER FRONT) (KV-XA51M61)	
	4-083-560-01	CUSHION (RIGHT UPPER FRONT) (KV-XA51M61)	
	4-083-561-01	CUSHION (LEFT UPPER REAR) (KV-XA51M61)	
	4-083-562-01	CUSHION (RIGHT UPPER REAR) (KV-XA51M61)	
	4-083-555-01	CUSHION (RIGHT LOWER REAR) (KV-XA51M61)	
	4-083-563-01	CUSHION (LEFT LOWER FRONT) (KV-XA51M61)	
	4-083-564-01	CUSHION (RIGHT LOWER FRONT) (KV-XA51M61)	
	4-083-565-01	CUSHION (LEFT LOWER REAR) (KV-XA51M61)	
*	4-082-469-01	INDIVIDUAL CARTON (KV-XA21M83(ID)/XA21M93)	
*	4-082-706-01	INDIVIDUAL CARTON (KV-XA21M83(VT)	
*	4-083-495-01	INDIVIDUAL CARTON (KV-XA21N93)	
	4-083-556-01	INDIVIDUAL CARTON (KV-XA51M61)	
*	4-077-934-02	INDIVIDUAL CARTON (KV-XA21P80)	
	4-082-462-11	MANUAL, INSTRUCTION (KV-XA21M83(ID)/XA21M93)	
	4-082-385-11	MANUAL, INSTRUCTION (KV-XA21M83(VT))	
	4-080-391-71	MANUAL INSTRUCTION (KV-XA21N93)	
	4-082-637-11	MANUAL, INSTRUCTION (KV-XA51M61)	
	4-083-607-11	MANUAL, INSTRUCTION (KV-XA21P80)	
	4-392-003-31	BAND, HOLD (KV-XA21M83(ID)/XA21M93/XA21P80)	
	4-392-003-11	BAND, HOLD (KV-XA21N93)	
	4-392-003-41	BAND, HOLD (KV-XA51M61)	
	4-392-003-51	BAND, HOLD (KV-XA21M83(VT)	
	4-070-990-91	LABEL, CARTON (KV-XA51M61)	
	4-392-004-11	CLIP (KV-XA21N93/XA51M61)	
	4-392-004-21	CLIP (KV-XA21P80/XA21M93/KV-XA21M83(ID))	

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REMOTE COMMANDER
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	1-418-163-12	REMOTE COMMANDER (RM-952) (Except KV-XA21N93)
	1-418-417-11	REMOTE COMMANDER (RM-915) (KV-XA21N93)
	9-939-697-01	BATTERY COVER REMOTE COMMANDER

Sony Corporation
Sony Technology Malaysia Sdn. Bhd.
Visual Entertainment General Area

9-872-249-01

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